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THE CARRIAGES OF ALL NATIONS



ENGLISH.



THE

COACH MAKER'S

ILLUSTRATED
MONTHLY

FRENCH.



GERMAN.



MAGAZINE.

C. W. SALADEE.
EDITOR AND PROPRIETOR

VOLUME ONE.

1855.



FEIGH & HICHES.

PLATE I.

SALADIN'S MAG. & T. & W. & C.



Fig. 1 — Buggy.

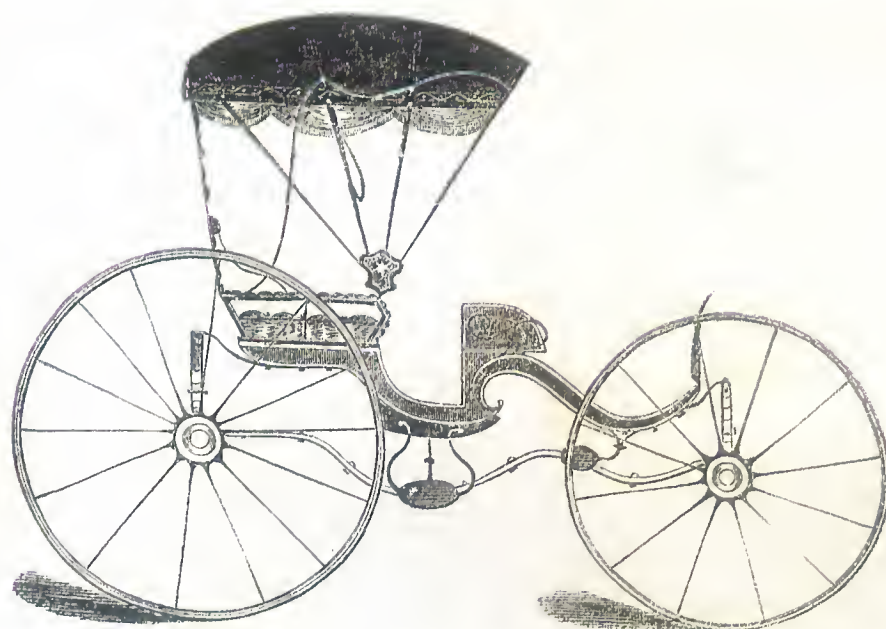


Fig. 2.—Sliding Seat Calash.

NEW YORK, JANUARY, 1855.

PLATE II.

[Decorative flourish]

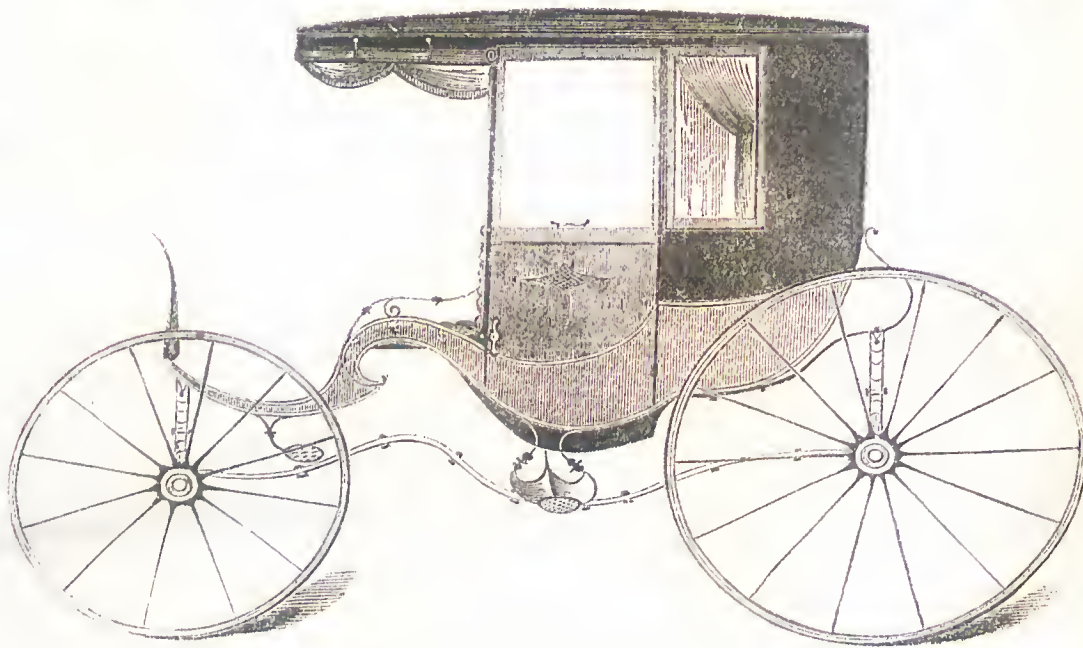


Fig. 3.—Crane Neck Rockaway.

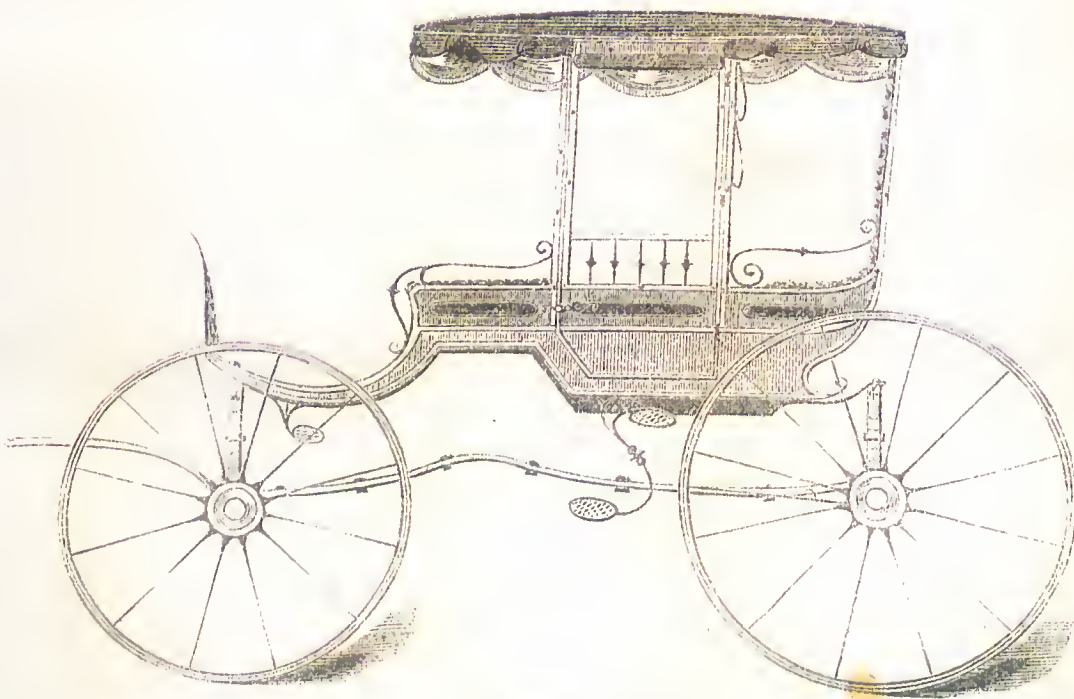


Fig. 4. Four Passenger Rockaway.

NEW YORK, JANUARY, 1855.

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C. W. SALADEE,

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VOLUME I.]

NEW YORK, JANUARY, 1855.

[NUMBER 1.]

TERMS:

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" " ten	"	- -	20 00

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Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented, stamped on the cover in gilt letters. All communications must be addressed to the Editor at his residence, Columbus, Ohio.

EXPLANATIONS OF THE DRAFTS.

PLATE NO. 1.—FIG. 1.

The design of the Buggy here illustrated, is original with ourself, and we present it to the coach making public as far superior in style and perfection of model, to anything of the kind now in use. 1st. The outline of the body is a composition of all the principle lines used in this department of manufacturing, viz: The *Plane*, the *Circle*, the *Square*, the *Triangle* and the *Parallelogram*. 2d. The model is of such design as to give the front wheels every advantage in turning, and at the same time gives ample room for the feet of the passenger, and thus an elevated seat is retained. 3d. The lightness of the body. 4th. The simplicity of its construction; these are the four leading points which every practical carriage maker has constantly in view when building a carriage, and without them no four wheeled vehicle can be called a perfect machine.

Fig. 1 is laid down to a scale $\frac{1}{4}$ inch to the foot, therefore every experienced workman need not be told what the proportions of the side elevations are, as he can readily obtain every dimension of the side necessary to execute his work, by applying the rule of scale, and for the benefit of those who are not accustomed to work from the rule of a scale, we have given an explanation of the same in another column of this number.

The side to this body is taken from 1 in. popular; the rocker from ash $1\frac{1}{2}$ in.; the seat frame in bottom is got out $2\frac{1}{2}$ by $\frac{1}{2}$. Width of body over all in bottom of seat, 3 ft. 2 in. The rocker is not seen at any point, as the side comes down even with the bottom of the rocker, all the way through, (except at the scroll,) where it runs down perpendicularly, thus leaving the end of the scroll extend out in front of the rocker about 2 inches. The great difficulty of bending a panel to a scroll of this dimension, is the cause of having the end of the same project out past the rocker at this point. There is one moulding $\frac{1}{4}$

in. run on the lower edge of the side the whole way around to the back part of the seat, then the moulding which forms the shape of the scroll and extending to the dash is cut as shown. No other moulding, however, is cut in the side above the one last described. A drupe-board of $1\frac{1}{2}$ inch wide is attached to the seat frame which makes the finish for the edge of the frame, and the joint between the frame and the side where the two are united. Two very light mouldings should be applied to the drupe-board. The oval projection in the side, immediately under the back pillar in the seat, is filled up after the back panel has been bradded on, by means of a heavy piece of soft wood, fitted in and finished with an oval surface to correspond with the projection; the moulding (triangle,) in the side at the back part of the body is bradded on after the outside mouldings have been cut.

The Painting of Fig. 1.—The scroll panel between the mouldings extending to the dash, should be of light Lake color; the rest of the side should be tea green, with all the mouldings black; with a delicate white line run in each panel in the side, within $\frac{1}{4}$ in. of the moulding. The seat should also be of tea green, neatly lined. The object of having the scroll panel lake, or of a different color, is for the purpose of making the design and arrangement of such panel appear the more prominent.

Trimming of Fig. 1.—The seat and cushions with black enamelled leather, tufted up with white bone or ivory buttons. The bows are covered with a very light article of smooth patent leather, neatly stitched on the inside. The drop curtain on the side of the top is so arranged as to be removed entirely by means of knobs, and when it is not needed is taken off and placed under the cushions of the seat. All open calash tops should be thus constructed, otherwise when the top is thrown back and the carriage is in motion, the curtains are soon wore through by the perpetual vibration of the body. But when they can be removed, this difficulty is obviated. The head and curtain linings should be of sky blue cloth; the festoon or fringe curtains are silk of fine quality, also blue. If a contrast is desired, a brown festoon is very appropriate.

Prices of Fig. 1.—\$175.00 and \$200.00. Body, \$12.00; Ironing, \$14.00; Trimming, \$15.00; Wheels, \$6.50; Carriage parts, carved, \$5.50. Wheels, No. 3; Carriage parts, No. 3.

PLATE 1. FIG. 2.

Sliding Seat Calash.—Fig. 2 is a sliding seat Calash, with a style of body entirely new and different from those now manufactured. The objections offered to this denomination of carriages, is, that the space between the two seats is so contracted, that it is destitute of comfort to the passenger on the back seat. We have endeavored to obviate this difficulty by elevating the seats, or in other words, by dropping the foot-board to a much greater extent than in the

original. The narrow space must necessarily be retained, otherwise, when the front seat is thrown back and the back seat is drawn forward, the space from the seat back would be much too great, and consequently make the body appear ill proportioned. But with the improvement we have made in the appearance of the side to the body, also, the arrangement of the foot-board to the back seat, it is made a handsome, light and convenient family carriage, and one which we think will demand a more ready sale than any other vehicle of this stamp now in market, for the reason that it is equally well adapted to two purposes; either a one or two seated carriage, which is a convenience much desired by every purchaser who is getting the same for a family conveyance, as it very frequently happens that he wishes to use the carriage with but two persons, while at other times again, he wishes to use it with four or more passengers; and if he can put himself in possession of a carriage that can at any time be made to harmonize in appearance, according to the number of persons riding in the same, is certainly a very desirable object to be attained.

It will be seen that the front of this body is taken from Fig. 1, so, also, the seat and top. The construction of the body is about the same as Fig. 1; the rocker, however, is exposed to view under the space between the two seats, as shown in the draft, and the general finish is the same. The front seat is hung upon hinges, which permits it to rise or fall as the case may be. A handle is attached to the ends of the revolving seat in the form of an S, as will be seen in the draft, for the purpose of raising or letting it back. When the wood work of the body is completed, the irons upon which the seat is moved are next applied; they consist of two straps of iron $1\frac{1}{2}$ by $\frac{1}{2}$, which extend from one end of the body to the other, on the top part projecting out over the edge of the side $\frac{1}{2}$ inch; these irons are sunk into the wood, level with the surface, and fastened by means of $1\frac{1}{2}$ wood screws; the holes being thoroughly countersunk to receive them, so that they do not extend above the level surface of the iron; these straps of iron must of course be separated where they run across both joints of the front seat where it lets down into the body so that part of the strap which is let in and fastened to the seat can raise with it; thus when it is thrown back into its place, there will be a continuation of this iron upon which the back seat may be moved forward; the latter is then attached to these irons by means of four irons (one at each corner,) which are made from bar 1 by $\frac{1}{2}$ inch, cut off in pieces about 6 inches long, the ends of which are bent in square hook form, to fit the projection of the iron already described, and are fastened to the seat with a light bolt and one wood screw in each; a stop is fixed at each end of the straps of iron upon which the seat slides, to prevent it from moving too far either one way or the other, and thus the seat is made moveable. If

the closed seat and top be preferred, they can be applied; but owing to the heavy and sluggish appearance of this style of finish to this body, we have substituted the open seat and top as much more becoming to a carriage of this class. The toe-board to this body at front step might be drawn 1 in. higher. The object of its being thrown down so low, is for the purpose of giving all the feet room possible.

Prices of Fig. 2.—\$200,00 and \$225,00. Body, \$14,00; Ironing, \$16,00; Trimming, \$16,00; Wheels, \$6,50; Carriage parts, carved, \$6,50. Wheels, No. 3. Carriage part, No. 3.

PLATE No 2.—FIG. 3.

Crane Neck Rockaway.—The design of this carriage is taken from the original crane neck front to coaches of the heavier class, and is one we think, which will meet the universal approbation of city manufacturers; this is a panel body. However, that part extending from the door forward, and forming the scroll, is the continuation of the sill or bottom side. Owing to its extreme length, this sill is joined at this point in order to prevent the inconvenience of handling so long an unhandy piece of work. The rocker runs straight across the top part of the scroll in front, which forms the bottom of the seat. No side whatever is constructed to the front seat above the side or scroll pannel; the finish being a plated arm of iron as represented in the draft. There is a partition across this body at the back of the front seat, which is constructed so as to be moveable.

The annexed engraving is a half view of the back, which will give the workmen an idea of the finish; also, the width of the body, &c. The body in front rests upon the spring bar.

Painting of Fig. 3.—The most becoming style of painting a body of this class, is to apply a dark lake or bottle green to the lower pannel in the back quarter, extending across the bottom door pannel, and continue around to the end of the scroll, and



from this point to the end of the dash, black. So, also, every other portion of the body, including the top part of the pannel in the door. The object of this is to present to the inspector's eye at first glance, the harmonious curves and general design of the scroll pannel. Much depends upon the style of painting a body to make its leading points appear the most prominent. By adhering to this rule, the form of the body is at all times visible to the eye, so far as it is capable of comprehending the different colors applied.

The Trimming to Fig. 3.—The most fashionable style of trimming these carriages when there is a division separating the front seat from the interior, is to trim the former with drab or black leather, and the latter with cloth or serge to suit the fancy of the purchaser; the head lining invariably plain. The diamond form and French roll is still the approved style for the back and side quarters.

J. E. M.

Prices.—The carriage when finished, \$500,00; Body, \$55,00; Ironing, \$38,00; Trimming, \$30,00 to \$40,00. Wheels, No. 5. Carriage part, No. 5.

PLATE No. 2.—FIG. 4.

Rockaway—Four Passenger.—This is a plain,

light, and convenient family carriage, with curtain doors, and sometimes with pannel up the back; but when finished as a plain and cheap rockaway, this is omitted. The arrangement under the front seat, by which the wheel is permitted to pass partly under the body when in the act of turning, is a desirable point to be attained in carriages of this order. It is got up with solid side and without sills; this rocker could be made out of straight pieces and joined at two points, viz: At the front of the door in the lower corner, and thus obviate the difficulty of being cut off by the grain of the wood; and the only crooked piece in the rocker would be in front. This rocker, put together in the manner described, with the usual plate of iron on the inside, would undoubtedly make it very substantial. The three oval figures in the side are sunk or cut into the pannels 1 inch, and the surrounding edge fluted or rounded down to the surface of the sunken pannel; in place of the iron arm in the side at the back seat, one of wood can be substituted; but the iron makes much the best finish. The width of this body over all is 3 ft. 6 inches.

Painting.—The pannels in the body should be of a dark color, and the pillars, mouldings and the three sunk pannels black, relieved with several light lines drawn in the pannels. The carriage part the same color as the body, only one shade lighter and neatly lined.

Trimming.—Black, blue, or brown enamelled leather is the most appropriate trimming for the seats, put in with squab, finished and tufted up with metal buttons. The head lining and festoon curtains should harmonize with the color of the leather used in the seats; however, if the leather is black, they should be of a dark blue.

G. H. M.

Prices.—The carriage, \$225,00 and \$250,00; Body, \$22,00; Sliding glass back, \$25,00; Ironing, \$20,00; Trimming, (squab) \$19,00. Wheels, No. 4. Carriage part, No. 4.

The Coach-Makers' Magazine.



JANUARY, - - - - - 1855.

TO THE COACH MAKING PUBLIC.

In the editorial department of our last work, (*The Coach-Makers' Guide for 1854*), we made the following statement, viz: That in getting up a new enterprise, great scope must always be left for improvement, as perfect excellence is only attained by the elaboration of a first idea, and while we deem even this number of the *Guide* as far more comprehensive in its design, and elaborate in debate than any work of its nature now in existence, on either side of the Atlantic, it is but the broad idea, capable of many improvements, and with the public favor, certain to receive them.

And now, having realized in our last publica-

tion, encouragement from the liberal hands of our brethren in all parts of the United States and Canada, even beyond our original expectations, and seeing, also, that the field in which we labor is sufficiently wide and abundantly able to maintain a more extensive publication than our last issue, to be devoted exclusively to the arts and sciences of carriage manufacturing, we are prompted to put forth new energy and make good our promise of improving as we progress; therefore, we present to your consideration the first No. of "*THE COACH-MAKERS' MONTHLY MAGAZINE*." The advantages this must have over a yearly publication are too apparent to need any explanation from our pen, as our patrons are already perfectly familiar with them. Nor need we here pause to speak of the benefit to be derived by every coach-maker in our land from a work like the one we now place in your hands, as every one engaged in business has often felt the need of just such a publication, whereby he may at all times compete with the best styles and modes of building carriages, and few there are we fancy, who are not heartily willing to give their support to a work properly directed in this channel.

We are aware of the imperfections existing in our former efforts, but when our friends and patrons take into consideration the fact that we are the first on this side of the deep to engage in this enterprise, and that we were consequently compelled to launch our bark out into strange and unexplored waters, to sound and ferret out the right channel as best we could, wherein to sail out into the broad sea of public favor, we think they will agree with us in saying, that we have done every thing that could reasonably be expected at our hands, under those circumstances.

The experience of two years in the management of this work, we think, has been sufficient to impart to us a knowledge of what will be expected through our enterprise in future, and also, what is desired by the coach making public in general, and in order to meet their wishes and receive their approbation universally, and also to obviate the difficulties which before stood in the way of the *Guide* as a yearly publication, we have substituted that of the "*Coach-Makers' Monthly Magazine*," and which shall be conducted in the strictest sense of the term, a scientific Journal, devoted to this class of mechanics. Every style and improvement in all parts of the carriage as fast as they are originated, (in foreign countries as well as our own, shall receive immediate place and mention in the Magazine, and thus we shall be enabled to extend equal advantages to all engaged in the business; the reverse of this was the great objection to our works in their annual form, viz: After it was issued, all new designs which might originate, could not be presented in our work until the coming year, thus the few who might be in possession of such knowledge or design would have all the advantages of the same, while the majority would have to receive it after it had

been extensively used by the few; or in other words, second hand. The monthly Magazine will therefore obviate this serious difficulty, for as soon as a new design is created, it shall forthwith be inserted and put into the hands of every coach-maker who is a subscriber to the same. Should this number of the Magazine receive the encouragement we now anticipate, the next shall appear greatly enlarged. It is our design to make the monthly as interesting to the general reader as to the mechanic; one that will be equally appreciated in the family circle as in the work-shops. We purpose having one department devoted to the popular news of the day; another to interesting articles on various subjects from correspondents and others; also, select poetry, &c., thus making it a monthly Magazine, containing more valuable information than any other now in existence.

In conclusion, may we not therefore ask of each subscriber whose approbation this number may meet, to exert his influence in making a club among the journeymen in his own shop, and thus assisting us to make still further improvements in our publications. Certainly each practical coach proprietor will feel it a duty as well as a pleasure, to extend his influence in behalf of such an enterprise.

Wishing you all a happy New-Year, and that it may attend you with life, health, and prosperity, we humbly bow, *your obedient servant*.

HARD TIMES.


Who has not heard these two unwelcome words repeated over and over again by almost every individual within the last six months—the cry is universal, but we are of opinion that hundreds of persons are in the habit of making use of these terms without realizing their true meaning. Few of us, perhaps, have ever experienced what is strictly termed *hard times*. Let those who are making so frequent use of the term, and are dissatisfied with their present situation, read the article from our fair correspondent under this head, in another part of this number. We commend it to their perusal.

PRICES OF WORK.

By the almost universal request of our subscribers, especially those West and South, we have submitted to comply with their wishes in giving the price of all the work we illustrate, also, the journeyman's fee in each department on the same, (except the painter who is generally employed by the week, at from \$10,00 to \$18,00.) As we have before informed our readers, we object to giving a table of prices, and present them as a standard by which our bretheren in all parts of the country should be governed; this, in our estimation, would be laboring to accomplish an impossibility, for the reason that work and material in one country, costs more (or less) than in another; therefore it is out of the question to establish a regular system of prices and

make them the standard in every part of the Union, consequently we shall make no pretensions to attain an end so utterly useless.

Let this be our answer to the many communications we have received upon this subject. The prices we will furnish shall be those of our own make, as received and paid on all illustrated. The prices connected with our explanations require the work to be furnished in the best manner and of the first quality of materials.

 Table of wheels and carriage parts in our next number.

THE SCALE.

There is no possible manner in which the body maker can obtain clearer conceptions of the proportion of a body from a drawing, than by the rule of a scale. We therefore hope that all those unacquainted with the rule will give due attention to the explanation we have given of the same in this number, as it will be essentially necessary for all body builders to acquire a knowledge of this rule, and especially those who are and will become subscribers to the monthly Magazine, as it will be wholly conducted upon this principle, so far as the drawings are concerned, consequently, the dimensions of no part of the carriage illustrated can be properly obtained without the workman understands the manner of applying the scale to which they are drawn.

THE HISTORY.

In this number we have commenced our history of the Coach, which we doubt not will greatly interest every carriage maker who is curious to know what the productions of his fellow craftsmen were like in the past ages of the world. We have devoted much time and labor to make this part of the Magazine both instructive and interesting to its readers. The object of our introduction to the history in this number, is to present the reader with facts which led to the discovery of vehicular locomotion and its gradual improvement through the different ages, until it arrived at a certain degree of perfection, which will enable him better to appreciate the historical facts we shall hereafter produce, touching the subject.

TO CONTRIBUTORS.

Those of our friends who have so kindly contributed various drafts and valuable articles to our Journal, have our heartfelt gratitude for the lively interest they have exhibited in behalf of our publications, and respectfully ask all others who feel the same interest in our enterprise, to extend to us so far as they are capable of doing, the like favor, which will greatly enable us to make the Magazine still more attractive and interesting.


THE DRAWINGS.

In conducting the drawing department of our Magazine, it shall be our constant aim to represent such (and only such) styles and designs as will meet the practical wants of the different manufacturers, so that the drafts in each number will be equally applicable to those who are confined to the construction of ordinary work, as that denomination of manufacturers who devote their attention exclusively to building the more elegant and expensive class of carriages, &c., thereby making it of equal importance and advantage to the small as to the extensive proprietor, and thus we hope to be able at all times to meet the approbation of our patrons universally.

NOTICE.

Will our friends who remit money have the kindness to send us notes which are current here, viz: New York, Virginia, Ohio, and all New England Banks, which are current at home, or gold, which is safer currency. Many adopt the latter in paying for the Magazine, and forward gold dollars. All Southern and Western money is heavily discounted in our market. We therefore hope that those of our patrons who reside in the latter countries will thus endeavor to accommodate us.

SILVER & DOLE'S PATENT HUB BORING MACHINE.—The object of this Machine is to cut out the hubs for the insertion of the boxes. We have one of them in our possession, and after having tested its utility we are satisfied of its practical worth. We have seen and tried many different kinds of machines for this purpose, and never yet have we laid our hands upon one that proves so perfect and correct in every respect as that of Dole's Patent. It is small, requiring no more room than an ordinary auger, and is as readily applied to the work. The price of this valuable machine is but \$15. We heartily recommend it to our patrons. We shall further speak of it in our next. See advertisement in this number.

 It will be seen by referring to our Prospectus for the Monthly, that we have issued the Magazine in a far better style than we had promised to do. In place of sending the paper of eight pages and the two plates in separate parts, we have at a heavy expense bound them together in a neat cover, beautifully printed, which we think a decided improvement to the plan we proposed. Having therefore fulfilled our promise to the fullest extent, we trust our patrons will not be indifferent as to extending their influence so far as practicable in assisting to increase its list of subscribers. We are contemplating still further improvements, which certainly shall be made, if it is properly supported by the craft. It is our desire to make the *Coach-Makers' Magazine* a journal that will do honor to that numerous class of mechanics for whom it is designed.

CONTRIBUTORS TO THIS NUMBER.

MISS VIRGINIA WATSON, of Pa.
JAMES MORELAND, of Michigan.
S. N. SLOAN, of Virginia.
G. H. MULLER, of New York.
JOHN E. MANLEY, of Conn.

Our old friend, S. T. J. Coleman, of Cincinnati, is still busily engaged in the manufacture of Bolts, Clips, &c., for the convenience of the craft, which (as usual) he offers on the most reasonable terms. We sincerely recommend his establishment to the coach making public as well worthy of their patronage.

We have but space in this number to direct the attention of our readers to the Coach Hardware and Trimming establishments advertised in this issue. They are extensive houses, and can furnish anything in their line on the most reasonable terms. We shall notice them in our next.

ANSWER TO CORRESPONDENTS.

"MISS V. W.," OF PA.—We shall be pleased to give room to your articles. Accept our thanks for those already received.

"MR. E. D.," OF ILLINOIS.—The receipts of coach painting you will find in the last No. of the *Coach-Makers' Guide*, 1851.

"MESSRS. D. L. & Co.," OF MICH.—We would recommend you to Messrs. Boyer, Simonson & Co., of Cincinnati, O., where you will find any variety of Hubs, Spokes, Felloes, Shafts, Bows, &c. &c., on reasonable terms.

"C. W. N.," OF PA.—Your article is at hand, and shall receive due attention.

"J. & Co.," OF N. O.—The principle carriage repositories in New York city are Messrs. Wood & Tomlinson, Lawrence, Hunt, Stevenson, and several others equally extensive, all situated on Broadway.

"M. M. M.," OF IA.—A small portion of Drier as in Receipt No. 6, in C. M. G., 1851, will make your varnish dry in as short space of time as you may desire. However, no varnish about a carriage should dry under eight hours; otherwise it is sure to crack.

"G. S. O.," OF IA.—Everett's Patent Coupling is well adapted to light carriages, and furthermore it is our opinion that no light Buggy should be constructed without its application. We have tested many of them, and are highly pleased with its operations.

"D. D.," OF OHIO.—Mr Hubbard's address, we believe, is Rochester, N. Y. His improved Carriage Springs will be noticed.

"MR. L. S.," OF QUEBEC, C. E.—Perhaps we may visit your city in February next. Our respects to friend N. E.

"J. E. P.," OF MICH.—Yours is received. Our answer to your inquiries as to the proper time for cutting timber for carriage work, &c., will appear soon.

"G. W. B.," OF ALA.—We know of no such patent right in carriages. Should be pleased to see your design.

"J. B. S.," OF S. C.—Your suggestions respecting the plans and designs of Coach Shops, to be illustrated in the Magazine, shall receive our attention, and inserted in due time.

"J. J. S.," OF BALTIMORE.—The French rule for framing and constructing coach bodies will appear soon.

For the Coach-Makers' Magazine.

HIGH CARRIAGES AND SHORT PERCHES.

MR. C. W. SALADÉE:—Upon seeing that you now assume the position of Editor of the *Coach-Makers' Monthly Magazine*, and believing that you are fully capable of executing that office to the highest satisfaction of the mechanics for whom you are laboring, I have taken this liberty of asking your opinion upon the construction of high carriages with short perches, and the advantages (if any,) the extremely low carriages with long perches have over the former. The question to which I invite your attention is this, viz: Will a low carriage with long coupling run easier (over the majority of roads) than one hung higher, and coupled short as possible; if so, what reasons would you assign. I have reasons to believe, that the latter are best adapted for all kinds of roads, which reasons, perhaps, I may give to your readers after seeing your answer to the above. Your obt. serv't,

S. N. S.

It affords us great pleasure to comply with the above request, knowing that many carriage makers are of the same erroneous opinion of our correspondent, especially the majority of the old fathers in our *Israel* seem to cling to this ancient notion, and in order to illustrate our views in a manner to be easily comprehended, we will turn the attention of the reader to the imperfections in the modern stage coach, which is a vehicle constructed precisely to the approbation of our correspondent, and here permit us to remark, that in the present advanced state of science, when the most enlightened views seem generally to prevail, and the slightest improvements in subjects of minor importance are eagerly received and encouraged, it is a most surprising circumstance that so much prejudice should still continue to exist on the construction of stage coaches. Not one step have these machines advanced towards improvement, for the last forty years.

Improvement, as we understand it, approaches towards comfort, safety, and practical utility; for surely those alterations which have effected the means of carrying three-fourths of the load on top, cannot be called by the name of improvement, and we have only to refer to the catalogue of accidents to convince us of the dangerous consequences arising from such constructions, and to show that this class of vehicles have retarded rather than advanced in improvement. As before stated, there are many coach proprietors at the present day who still hold to the notions of their ancient brethren, that a coach of high construction with the wheels close to each other, will follow the animal which is compelled to draw it, much lighter than a vehicle of similar construction and weight upon a lower carriage, and with the wheels farther apart. Now, both these opinions are not only erroneous, and very detrimental to safety, but absolutely increase the evil they are calculated to obviate; as it is evident that by raising the body of the vehicle, its liability to upset on either side is greatly increased, and by bringing the wheels so close together, the base upon which it stands is greatly

contracted, and thus the same liability of over-setting attends it. Let an unprejudiced individual observe one of the modern stage coaches when burthened with eight or ten passengers and a large quantity of luggage on the top, thus being elevated ten or twelve feet above from the ground, or one of those high constructed "C" spring coaches still in common use throughout the Southern States, with its elevated burthen as it is moving from him, tottering from side to side, upon a base of 6 ft. by 4 ft. 6 or 8 in., and vibrating too and fro according to the slightest unevenness in the road. What would be the first impression in the observer's mind in contemplating such an awkward position. Would he feel surprised at the frequent occurrences of oversetting? No, but would wonder that such accidents did not occur more frequently.

If carriage makers who entertain this opinion, before they persist in subjecting the public to the unnecessary evils arising from carriages of high construction and short couplings, would but listen to a few plain observations, they must be convinced the advantages so pertinaciously attributed to these vehicles are founded entirely in error,—indeed, a few moments reflection is alone sufficient to dissipate such wild and extravagant notions. We have only to consider a little the nature of the resistance to motion, or in other terms, the opposing forces to the draft of the horse. By far the most opposing of these resistances, we are well aware, arise from the friction produced by the asperity of the roads and hills over which the coach must pass. With the assistance of the wheels and axles we greatly reduce this friction or resistance; it is therefore to the construction of those parts of the machine to which our attention must be directed, to lessen the horse's draft, and we should like to hear in what sense it can be contended that the kind of vehicle under consideration is capable of attaining this much desired object. Can any practical coach-maker be so inconsistent as to suppose, that the moving power of the wheels can be increased by running one nearly against the other, and elevating the load upon them? If the surface of the road was perfectly level and smooth as ice, the coach would then require very little power to move it; the only opposing force being atmospheric resistance. The advantages of a low carriage over a high one, under such circumstances, are too obvious to receive further notice—indeed, many instances are on record, of high coaches having been blown over on level roads by the power of wind alone. Is it not therefore evident that if the specific weight of the vehicle is the same, the wheels of equal height, and the springs of similar elasticity, that the low coach must follow the horses with less resistance than one of high construction?

Now, with respect to the other presumed advantage,—that of short perches. The fallacy of this opinion might be shown, by making a few experiments with a common timber carriage,

drawn by a weight running over the roller of a well. First, let the hind wheels be brought close to the front ones and attach sufficient weight to the end of the rope to draw the carriage forward. Next, move the hind wheels as far back as the perch of the timber carriage will allow, and repeat the experiment, and it will be found that the same weight will move the carriage as before.

The great disadvantage which must necessarily attend the use of short carriages, are owing to the greater preponderance of weight being thrown upon the front or hind wheels, when passing over uneven roads or in ascending and descending hills. Thus, suppose the front wheels to fall into a hollow in the road; the greater portion of the weight of the vehicle is thrown suddenly upon them, and when the horses by extra exertion have raised them out, the hind ones descend into the same position, and the greater proportion of the weight is then thrown upon the hind part, owing to the great elevation of the front; the consequence therefore is, that the horses are compelled to raise the same weight twice out of the same hollow in the road; then the reader will readily perceive the great advantages of low carriages and long couplings over high ones and short perches. First—it is not so easily upset. Second—much more convenient for the passenger in stepping in and out of the carriage. Third—being long coupled it follows the horses with less resistance over all kinds of roads. Fourth—the long coupling relieves the wheels from the sudden shock they must otherwise receive, by the whole weight of the carriage being thrown at once upon either the front or hind ones and thus have a great tendency to strain them. These are the reasons we assign in support of our opinion, that a low carriage with long coupling is far superior in every respect, to the carriage of high construction and short perches.

THE SCALE.

The annexed engraving is the scale to which the drawings of this No. have been made, also, the same will follow it. In the first number of our work, the "C. M. G.," 1853, we attempted to give the workman every dimension necessary to execute his work, without reference to a scale of any kind, as the drawings to that number were not laid down to a scale. Finding that this was an imperfection, the following number for 1854, was drawn to this scale, the application of which we explained in as plain and comprehensive a manner as we were capable of doing; but somehow we have received a number of letters from our subscribers, asking why we did not give the dimensions of the work illustrated on our charts, as we did the year before. If they have examined the book, to the number for 1854, and did not readily perceive that the dimensions of each or all the drafts are given to the fullest extent by this rule of scale, we have only to say that their comprehension is ex-

remely short. We did not, (nor shall we in future) state the number of feet and inches which proportion the side elevations, as this is perfect mockery to every experienced workman, when the drawings from which he is working are drawn to a scale; for thus he can obtain any dimension he wishes, with as much satisfaction as though he was taking his measurement from a carriage already built and completed. The simplest manner of getting any dimension from the draft is to make a rule out of a delicate piece of hard wood or bone, if convenient, and work it about $\frac{3}{4}$ by $\frac{1}{2}$, and cut the scale upon it as shown in the above engraving. First, make the rule 3 inches long, and divide it into six half inches, and one of these spaces at either end divide into twelve parts. The $\frac{1}{2}$ in. space you call 1 foot and each of the twelve parts you call equal to 1 in. on the common rule. With this rule you can then measure any part or portion of the draft you like. Thus any dimension is correctly obtained from the draft. For example, a wheel measures by the common rule, two inches in diameter; you will understand this according to the above scale to be a four foot wheel, being four half inches in diameter, (4 feet.) We trust this explanation will appear comprehensive to those who have written us, and all others who do not understand the rule.

MR. SALADEE:

For Saladee's Magazine.

Respected Sir:—The following rule for setting an axle properly, and so as to have the spokes from the hub to the ground stand perpendicular, &c., may prove of some importance to many of your numerous patrons engaged in the business, and should you consider it worthy of notice, give it a corner in your Magazine.

EXPLANATION OF THE RULE. FIG. 1.

1 represents the timber from which the axle is designed to be made, the bottom part of which is planed off straight, (if the axle is to be crooked, then a pattern is necessary, to which the rule is applied in the same manner as the straight one now under consideration,) then draw line 3 square across the side which is the back of the hub, from this measure the length of the hub and make another square line as Fig. 9, then ascertain the distance from the back of the hub to the front of the spokes, or mortices of the spoke, and draw line Fig. 5; this done, draw line 8 near about the centre of the axle. Having ascertained the semi-diameter of the wheel, you will measure that distance from the cross lines at Fig. 5 to fig. 2 on line 8, and draw another square line across the axle at this point, as shown in fig. 2; the next step in order will be to ascertain the dish of the wheel you intend attaching to the axle, which mark from line 3 on line 2, and make a dott, then draw line 4 from the last dott made at fig. 2, so that it will intersect the cross lines at fig. 5, this line 4 you make the centre of the arm or spindle, the size of which is obtained from this line at both butt and point, the space from line 5 to line 3 should be multiplied by 2 for both arms, and subtracted from the measurement of the track from outside to out, where the wheels bare on the ground, which will give you the desired distance from shoulder to shoulder. I will here define the meaning of each line drawn in the cut, which will assist the reader in readily comprehending it. Line 3, back of the hub; line 9, front of hub; 5, front of

spokes; 6, the bottom or bearing part of the arm; 7, top of the arm; 4, center of arm; 2, semi-diameter of the wheel and dish; 8, the parallel line from which to work,—thus you obtain a perpendicular spoke to any sized wheel. No matter what the dish or length of the hub or size of the box or boxes in the hub, a desideratum not attainable by the old rule, or any rule that does not recognize dish of wheel, length of hub &c. You will readily perceive, if you have a perpendicular spoke, that the space from the front of the spoke to the back of the hub, should be deducted from the width of the track, which will under all circumstances give you the correct distance between shoulders.

The above rule is also applicable to iron axles, by first making the draft upon a board accordingly.

Truly yours,

J. M.

FOREIGN CARRIAGES.



IRISH JAUNTING CAR.

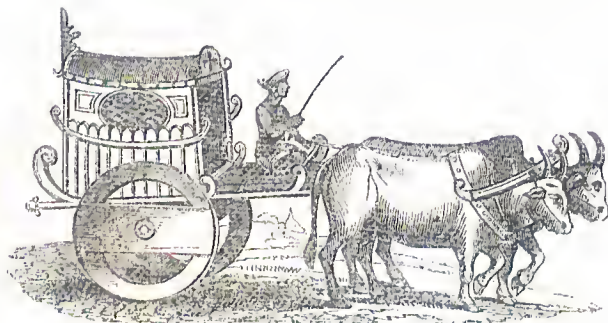
The above might properly be called the Irish Omnibus, as it is to the citizens of Ireland what the four wheeled omnibus is to those of America, viz: a public conveyance in large cities. We are informed by various travelers, that this Irish Jaunting Car is an exceedingly pleasant conveyance; being very light and bearing but slightly upon the horse; and remarkably safe as well as convenient. Its manner of construction is such as to make it very convenient for the passenger to get on and off, so much so, that it is frequently done while the machine is in motion. It is invariably driven with one horse; the driver occupies a small seat or box intended expressly for him in front, and the passengers sit back to back. The space as seen between the two seats, is designed for the accommodation of any luggage or baggage that the passenger may wish to carry. In case only one passenger should ride, the driver places himself on the opposite seat in order to balance the vehicle as much as possible; otherwise, the motion of the machine would be very awkward.

The public cars of Mr. Biancome have, to a great extent, displaced the regular coaches, and are to be encountered in every district in the southern portion of Ireland. In form they resemble the common outside jaunting car, but are calculated to carry from twelve to sixteen persons; drawn by three horses, and travel at the rate of seven miles per hour. They are entirely open, but by the aid of a huge apron, considerable protection against the rain is afforded, and are represented in all respects as a decidedly convenient traveling vehicle.



HINDOO GENTLEMAN'S CARRIAGE.

The above represents a Hindoo Gentleman's Carriage, as seen in the streets of the city Ava, of Asia. The streets, (says a late Missionary writer,) of Ava cross each other at right angles, and are wide, straight and clean, but not paved. The centre is kept clean and smooth for footmen, while the sides right and left are appropriated to wheel carriages, elephants, &c. I have seen no horses used for draft, but handsome bullock carriages are used by the wealthy. The above is a representation of one of the most expensive kind of pleasure vehicles constructed, having seats richly lined with velvet, arched top with red cloth beautifully figured. The body is made and inlaid with silver and brass, and the wood ingeniously engraved and carved, with wheels of modern stamp. There is another kind of carriage to be seen here, used by the Burman gentlemen.



THE BURMAN GENTLEMEN'S CARRIAGE.

Their bodies are framed with timber, with bamboo yoke and the wheels of wood; no iron being used in their construction—nevertheless, they are looked upon as decidedly handsome. They are without seats, of course, and the floor is nicely matted or cushioned. The animals being used for this purpose, trot along quite briskly. Around their necks are strings of bells, the sound of which are supposed to produce a greater effect in the rapid stride of these animals than all the lash the driver might be capable of applying to their backs.



THE VOLANTE, OF HAVANA.

Mr. Ballou, of Mass., in his late travels throughout Cuba, has furnished us with a sketch of the only pleasure vehicle used by the feminine gentry of Havana. Our cut represents one of the latest style, called the Volante. Mr. Ballou thus describes it: "It is difficult, without experience, to form an idea of its extraordinary ease of motion, or its appropriateness to the peculiarities of the country." Relating to the ease of motion, Miss Brezen in one of her letters, said: "When I first saw the rocking motion of the volante, as it drove along the streets, I thought it must be an extremely disagreeable carriage; but when I was seated in one, I seemed to myself rocking in a cloud. I have never felt an easier motion." It makes nothing of the deep mud that always accompanies the rainy seasons, but with its enormous wheels, six feet in diameter, heavy shafts, and low phaeton-like hump body, it dashes over and through every

impediment with the utmost facility. Strange as it may seem, it is very light upon the horse, which is also bestridden by a postillion or *calisero*. When traveling any distance upon the road, a second horse is added on the left, abreast and attached to the Volante, by means of a whiffletree and traces. When there are two horses in this style, the postillion rides the one to the left, leaving the shaft horse free from all weight save that of the vehicle. When the roads have become particularly bad, and there is more than the usual weight to carry, of baggage, &c., a third horse is often attached, but he is still placed abreast of the others, to the right of the shaft horse, and guided by a bridle rein in the hands of the *calisero*. The Spaniards take great pride in these volantes, especially those improved for city use, and they are often to be met with, elaborately mounted with silver, and in many instances with gold, wrought with great skill and beauty. There were volantes pointed out to the writer, of this latter character, in Havana, that could not have cost less than a thousand dollars each. A Volante equipped in this style, with the gaily dressed *calisero*, his scarlet jacket, elaborately trimmed with silver braid, his high jack boots, with silver buckles at the knee, and monstrous spurs upon his heels, with rollers an inch long, makes quite a dashing appearance; especially if a couple of black eyed creole ladies happens to constitute the freight. Thus they direct their way to the *Taconpaseo* to meet the fashion of the town at the close of the day, almost the only out door recreation for the sex.

MISCELLANEOUS.

MR. SALADRE—*Dear Sir:*—An evening or two ago as father returned from the office he brought with him one of your prospectuses for the New Monthly Magazine, to be edited by yourself, and devoted to coach-making. He has been a subscriber and a great admirer of your publications ever since you commenced them. Finding that part of your Magazine is open to miscellaneous articles, I have thought of a subject, and have taken the pains to write the following article for your January No., and should you consider it worthy of room in the miscellaneous department, and can persuade yourself to think that the feminine pen is not unbecoming in a Magazine devoted to the arts and science of Coach making, I must confess I would feel a certain degree of pride to see it in your columns.

Yours, &c.,

V. W.

Written for *Saladre's Magazine*.

HARD TIMES.



MOST sad and doleful expression, we fancy will be seen to rest upon the countenance of many a weary mechanic as he is perusing the contents of his memorandum book, on the last Saturday evening of the memorable year of 1854, and beholds how extremely small is the accumulated sum of the past year's daily toil, by which to insure comfort in time of sickness or coming old age.

Disheartened at the results of the past year, and as he is silently contemplating the dark prospects of the one now budding, and almost ready to bloom into existence, he is heard to exclaim, Ah, these are hard times, discouraging times for the mechanic, who must earn his bread only by the sweat of his brow. Our rents are enormous, fuel and flour extremely high, and all other provisions in proportion! Certainly it costs me a pretty sum to live comfortable, and it is hard, very hard, out of my twelve or fifteen dollars per week, to accumulate even one hundred dollars out of my year's labor, independent of family expenses.

Really, I cannot see how it is, replies his industrious little wife, with a sad heart, I am sure I economise in every way I am capable of doing. Yes, yes, replies the complainer, and so do I. But wife these are hard times, rich men like A—— and C—— together with our landlord, they are all right, notwithstanding. They don't feel the change, but the mechanic who must work hard to gain a livelihood, he is the one who suffers. But stop, my brother, those are ungrateful words for you to utter, while you are surrounded by a thousand blessings. Your home may be simple and unpretending, it is true; your dwelling may be an humble cottage on the suburbs of the city, yet it wears a pleasant aspect; the walls of the lowly habitation are not decorated with costly papers of velvet finish, nor the windows with figured curtains of fine embroidery, the apartments may have none of those luxuries, yet everything betokens neatness and comfort.—Spotless curtains are folded over the windows, a cheap but tasteful carpet covers the floor, books and papers are lying upon the stand in one corner, in short everything to make your home comfortable and happy. Besides you are in the prime of manhood, hale and vigorous, and have abundant strength to perform the toil which has fallen to your lot; disease has seldom laid his iron grasp upon you or any of the family circle. Death perchance has never entered your dwelling and stifled the bounding pulse—closed the bright eye—swept the rich bloom from the fair and rosy cheek. Want has never shown her ghastly visage there, those noble

boys and their dear little sister, have never known the agony of begging from door to door, or grown prematurely old with cares and trials of penury. None of these sorrows have ever attended you, still you sorrow and repine because you must labor year in and out, for but little more than a livelihood. Many blessings have been lavished upon you, after all you seem to forget them and wonder why wealth was so unequally divided among the inhabitants of the earth.

While the mechanic is thus indulging in gloomy reflections of the past and forebodings of the future, his landlord is at the same moment sitting in his library, with bills, notes and checks spread out before him, and we behold him examining them with an anxious and troubled look; finally he pushes them abruptly aside, and with an air of extreme dissatisfaction exclaims "bad luck—a costly block of buildings which produced high rents, are suddenly reduced to ashes. Yes, and here is this speculation in which I have been engaged has proved an entire failure; also, Mr. D., who is largely indebted, has become bankrupt." And as the rich man counts up his losses, notice how dark grows his brow, his property seems to him as disappearing like the melting snow, and though he is now the possessor of a princely fortune, he imagines poverty is staring him in the very face. "How heavy my cares," he mentally exclaims, "if I had no more than my tenant, yonder, I should be at ease; he experiences none of the burthens which are perpetually harassing my mind, and when he lays him down to rest, his thoughts are free to roam as the air he breathes." But these are hard times, who ever saw such hard times? Was there no voice within the miserly soul which bade him take back the desponding words? Around him falls the light of the costly lamp with subdued radiance, reflecting its brilliancy upon rare furniture and the wonderful works of art which ornament his apartments. Everything throughout his entire mansion is on a scale of lordly splendor; none of his dear ones were suffering for the want of any luxuries which money could procure, and yet he talks loudly of hard times, and closes his heart against the cries of the poor, that he may hoard up his own gains.

In yonder alley is a filthy and most miserable hut, whose occupants have been reduced to poverty and want. How desolate the habitation. As we gaze upon its ragged front and broken windows, we are curious to see the interior. We enter, and behold! what a sight is stretched out before our vision—there in one corner on the floor is laid a comfortless bed, upon which is seen a child-like form tossing too and fro with fevered brow; the young widowed mother with pale and care-worn face, is seated beside her child, watching over it with the tenderness of a mother's care, and even there by the couch of the dying she is compelled to lean over her plain sewing, or *starve*. What if those sudden spasms betoken death! What if the pulse fluttered feebly, and the dark eyes became dim; she must still toil on to procure the scanty nourishment of life.

Oh, if the mechanic who is comfortably situated, and whose family is enjoying health and happiness complains, or if the rich who murmur and cry out, hard times, could but hear the fruitless cries for bread, or behold the hundredth part of misery which is daily existing among their fellow beings, we imagine it would learn them to be thankful that they are what they are, and enable them to go on their way rejoicing, realizing the great truth, that

"He who lags when labor should be done,
Or his appointed task would shun,

Commits a folly and a crime.

A soulless slave—

A paltry knave—

A clog upon the wheels of time,
With work to do and store of health,

The man's unworthy to be free.

Who will not give,

That he may live,

His daily toil for daily fee.

No, let us work! We only ask

Reward, proportioned to our task;

We have no quarrel with the great,

No feud with rank---

With mill or bank---

No envy of a lord's estate,

If we can earn sufficient store,

To satisfy our daily need,

And can retain,

For age and pain,

A fraction, we are rich indeed.

No dread of toil have we or ours,

We know our worth, and weigh our powers,

The more we work the more we win.

Success to the trade,

Success to the spade,

And all who toil to live;

And joy to him who at his task,

Remembers toil is nature's plan,

Who working thinks,

And never sinks

His independence as a man.

Who only asks for humblest wealth,

Enough for competence and health,

And leisure when his work is done

To read his book,

By chimney nook,

Or stroll at setting of the sun,

Who toils as every man should toil.

For fair reward, *erect and free*.

These are the *men*,

The best of *men*,

The *men* you all should strive to be."

V. W.

HISTORY OF THE COACH.

INTRODUCTION.

When we look around us over the great world of mechanics, and behold that almost every class are in possession of a history, through which (like a powerful telescope,) they are enabled to look back into the early ages of the world, and ascertain what the productions of their fellow craftsmen were like, among the ancient nations now slumbering in the dust, and thereby note the progress and the improvements of the art or occupation they profess, we are forcibly impressed with the fact that a work of a similar character will prove none the less useful and interesting to that class so familiarly known in the nineteenth century, by the name *coach-makers*. In view of this, and the fact that few persons (and indeed coach-makers themselves) are acquainted with the history of the coach, or are aware that wheeled carriages did exist and were in use hundreds of years before Christ, we are induced to commence in this No. of the Magazine, a history of wheeled carriages, and continue the same till we have traced it through the many centuries past and gone, up to the present time.

Carriages are almost invariably supposed to be of modern origin, and that their existence is that of but a few years in comparison with other branches of the industrial arts. However, we

expect to be able to show in the following pages, to the satisfaction of every thinking mind, that wheel chariots and coaches stand out in history among the earliest articles manufactured. It is true, that in the construction of carriages, (like every thing else) great improvements have followed the original designs, and so much so indeed, that the modern coach has become so widely different from the ancient, that the two seem not to hold the least relationship to each other.

These facts have often presented the idea to our mind, that a wide and beautiful field was open for an extensive and interesting history of the coach; and as we gaze out over this mammoth field and behold that it is destitute of a laborer to go forth and pluck the interesting flowers and curious shrubbery, which so abundantly covers its surface, and bind them together in a charming bouquet to present to the carriage world, we have been induced to enter and volunteer our services, and as we have undertaken the work which is now before us, we will endeavor in our familiar manner, in due time to present to your mind, the fruits of our labors.

By what we have already stated, the mind of the reader is naturally led to inquire, from what source we expect to obtain the correct sketches of the first wheeled carriages ever constructed? We answer, that ourself, and every other individual, who might undertake the task, would in all probability find it extremely difficult, if not utterly impossible, to furnish the correct designs of the first wheel carriages created and brought into use.

As before stated, carriages and chariots are considered among the earliest articles manufactured; but nowhere in history are we furnished with information that will establish a full and correct sketch of the first wheeled carriages used among the ancient people. Still, we are pointed to a very early period of their existence, (fifteen centuries before Christ) and in addition to this, we are left with many of their designs, such as chariots, carts, wagons, &c., as represented in works of ancient antiquities, and various histories. We shall therefore make no pretension in the following pages to reach into the mysterious past any farther than history will lead us.

But the object now before us is, (by the aid of various historical works, written by men of different nations, and among which is one furnished us by Mr. T. S. Waugh, of Tappahannock, Va., written by W. B. Adams, of England, in 1837, and to which work we are indebted for much interesting information upon this subject,) to bring up historical evidence by which to demonstrate the fact that carriages of some form did exist and were in use among the different nations, hundreds of years before Christ, and also to illustrate as correctly as the nature of the case will admit, their manner and form of construction, which will impart to the attentive reader a knowledge capable of forming an idea as to what the still more ancient chariots resembled.

We have already intimated, that progress followed in the track of the wheel carriage, as well as in that of any other department of manufacturing. This is but very natural, from the fact that man, by whom all progress is put into execution, is by nature (not like the hard-working beaver, who displays no more originality in the construction of his dam in our western forests now, than he did before Columbus landed upon the shores of the New World, or like the swallow, who builds her nest no more skillfully now than she did before the flood,) but a progressive being, whose intellect is susceptible of unlimited improvement, and makes the accumu-

lated knowledge of the past, the starting point of future discovery. This readily accounts for the introduction of locomotion and the gradual improvement which followed it from the first form of the lowest order, to the now defying and magnificent coach which so beautifully ornaments the streets of our cities, and brightens the face of civilized community.

But let us turn to notice what the facilities of early locomotion were like. It is evident that the earliest and simplest means of locomotion were the same in human beings as in the lower order of animals, viz: The muscular action of the limbs, and so long as they continue elastic, the act of walking was, to a certain degree, a source of pleasure; but when they become languid and relaxed, it is equally a source of pain. Thus the frequent necessity of continuing locomotion, after the muscles have become languid, must, as a natural consequence, have set human invention at work at a very early period of the world for the purpose of devising a remedy, and the first undoubtedly was very imperfect. But among the earliest means which presented themselves was that of substituting for human muscles that of the lower orders of animals; such as were sufficiently strong to bear a human burthen—thus commenced the act of riding horses, asses, mules, camels, dromedaries, elephants, &c., although the act of riding upon the three latter, be only the lesser evil than walking, and though the act of riding on the backs of the former be a positive pleasure, still it is not a pleasure at all times and under all circumstances; it is evident, therefore, that this fact must have put it into the minds of the early people, that some means of vehicular locomotion was absolutely necessary to obviate these difficulties in the way, and consequently set them to work early in contriving some plan by which this much desired object might be accomplished.

We are supported in the assertion that the first vehicular locomotion discovered was upon the water; for human beings residing on the banks of rivers, could not help observing the facility wherewith trees and other vegetable productions floated upon the surface, and moved with the downward current. Thus the observer would be led to construct a rude raft, whereupon he might move on the bosom of the running waters, though a long period probably elapsed before the discovery or invention of the oar or paddle for the purpose of moving such construction, contrary to the current. After this was accomplished, the encouraged inventor was prompted to construct a more perfect contrivance than the raft, such as a dug-out or bark canoe, and finally of leather, in order to make them light and durable; thus one step after another was locomotion introduced upon the water, and which was the only one in existence for a long time, as we read of boats and ships being in existence in advance of every other means of locomotion; also, the expression of "King's boats, Queen's boats," leads to the conclusion that this was the only means by which the nobility in those days rode out for pleasure, (save that already described,) and was considered by such a very excellent mode of conveyance. Row boats were finally constructed with great taste and ingenuity, attended with enormous expense, and which are still exclusively in use among the Turks and Arabs.

But this was a mode of locomotion confined to a limited space, and consequently a desire for a vehicular locomotion by land was by no means unnatural, and accordingly the human mind was put into exercise for the purpose of devising some means which would lead to the accomplishment of this much desired object. The first

and most simple form which would naturally present itself would be a land raft or sledge, which if not heavily loaded would move in favorable localities with considerable facility, as over dried grass or green turf, ice, or on the hardened snow. In the northern countries, both in Europe and America, the sledge is constantly used upon the snow at the present day, for which purpose it is much better adapted than wheeled vehicles. In the Islands of Madeira the heavy pipes of wine are drawn on sledges from the mountain vineyards to the sea ports, and part of the driver's business is to walk by the side of them with a kind of mop to keep the surface of the bare rock on which they run, constantly wet in order to diminish the friction. Another instance is the sledge used by the London brewers, drawn by a single horse, to convey barrels of light weight. But it is evident, that except under peculiar circumstances, the friction of sledges is so great, as to cause a great loss of animal power, therefore, better vehicles must have been objects of desire. In mountainous countries sledges could scarcely be used except down hills, accordingly in mountainous countries the next stage of progress and improvement must have been adopted, which was to take the sledge entirely from the ground upon which it is drawn, by horses or oxen, and to suspend it from the backs of two or four of them, by means of pack saddles and lashings. In Spain and Portugal, this rude vehicle is still to be found under the form of the litter or litter, which is in fact a Sedan chair borne by two horses or mules, one before and one behind the poles upon which it rests being shung from the pack saddles.

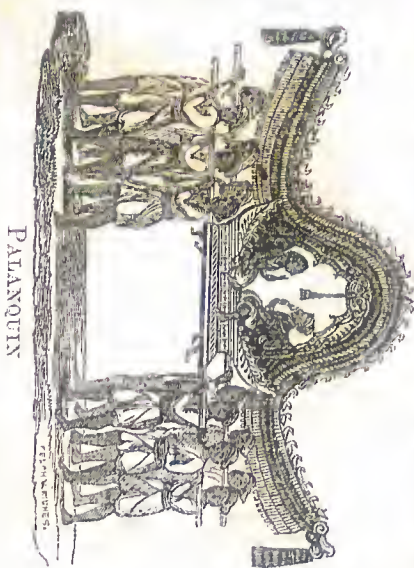


THE BASTERNA.

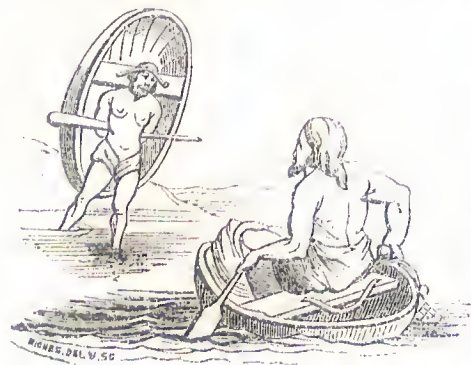
The above is a kind of litter or palanquin, in which women were carried in the time of the Roman Emperors; it resembles the *Leetica*, but different in being a close carriage; it was borne by two mules, and similar vehicles are still in use on the continent. During the middle ages they were commonly used by the noble and the wealthy, and our cut represents a *Royal Litter*, from a manuscript.

At a very early age in England, these Basternas, litters, and Sedan chairs were extensively in use among the nobility of the land, and for such they were borne by men, for traveling, &c. In the East the form changes from a chair to the more luxurious one of a couch, and under the name of Palanquin. It constitutes the principal vehicular conveyance of the rich, being borne by olive-complexioned men, more capable of endurance than quadrupeds in an enervating climate.

But as the litter and the Palanquin were alike imperfect, inasmuch as they consumed a large amount of animal power to very little effect, because the whole



weight of the passenger, and also the vehicle had to be borne up as well as moved along. Those who navigated large rivers in canoes were occasionally obliged to lift them out of the water and carry them over land wherever falls or shallows interrupted the channel.



THE CORACLES.*

In such case the bearers would become sensible of the disproportion of labor existing between the act of paddling a canoe and that of carrying it, and invention would be set to work to produce a similar result with a land vehicle to find a mode of sustaining it as the water sustained the canoe.

He who cuts down trees on the hill side, to build his house in the valley, would naturally remark the facility with which the round trunks rolled to the bottom of the hill, and also the ease with which they could be moved over the level, when compared with flat timbers and large blocks of stone. To set in motion trees thus placed, it is necessary to apply a lever. This would not be a tedious process of discovery, after the example of the paddle, which acts as a lever in the water; but turf or soft ground would prove a very insufficient fulcrum to rest the lever upon, and the next process would naturally be that of cutting a hole through the roller in which to insert the lever; the convenience of several holes in the circumference of the roller would then become apparent, and thus would be formed an embryo wheel nave. It could not fail to be remarked, also, that the larger the roller, the greater the facility for turning it, and consequently the larger the load that could be borne upon it. There are few trees whose trunks are found of sufficient size and of a cylindrical form, without which latter consideration they would not roll in a straight line, but in the circumference of a circle of larger or smaller size.

[To be Continued]

Plate No. III.

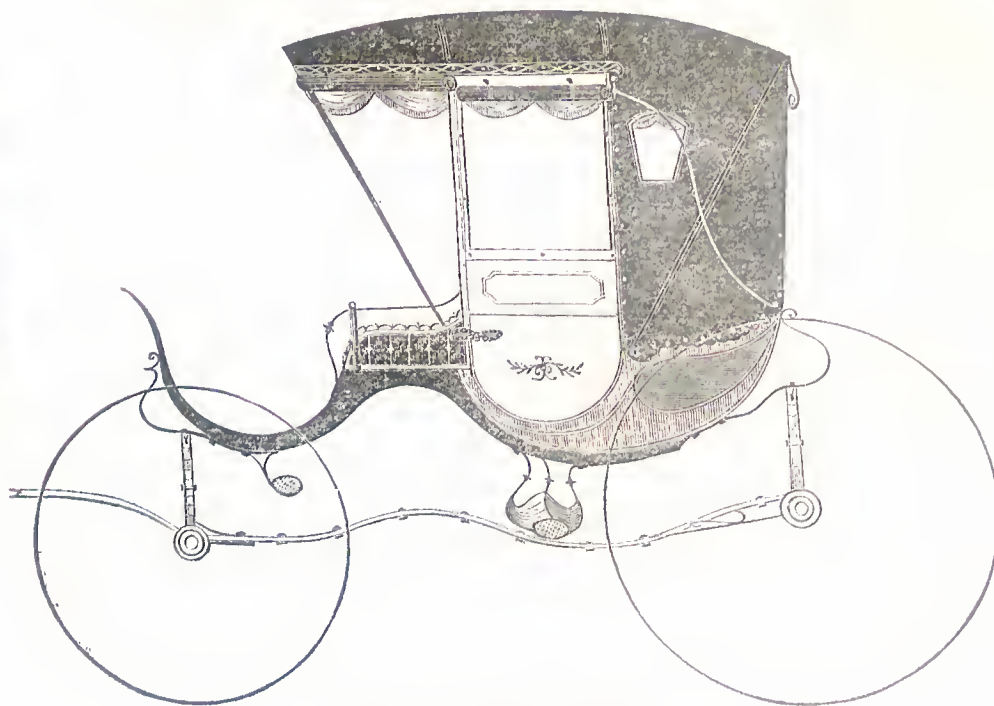


Fig. 5.—Phaeton Rockaway.

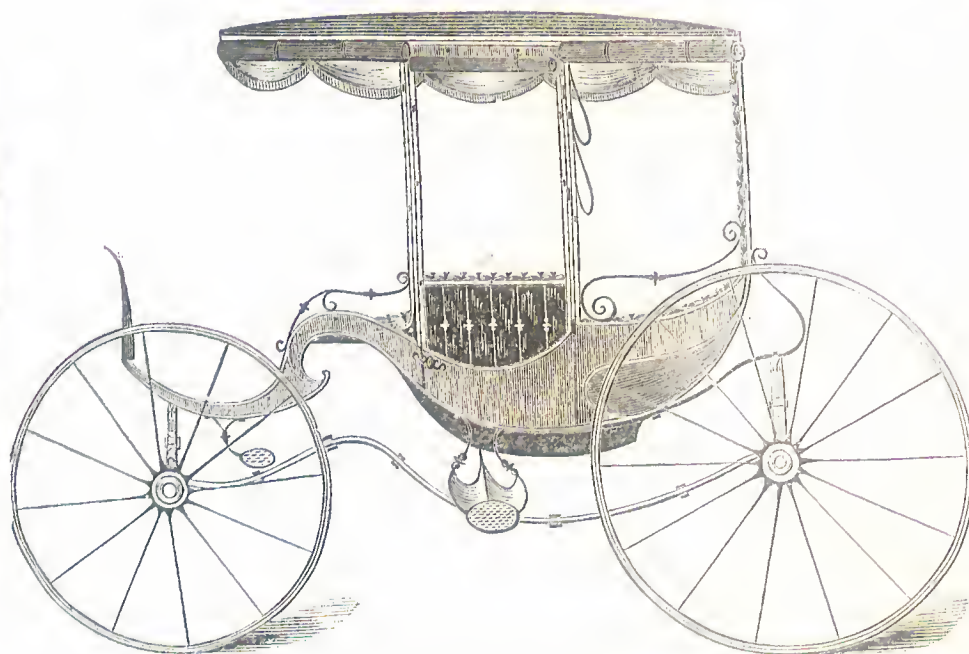
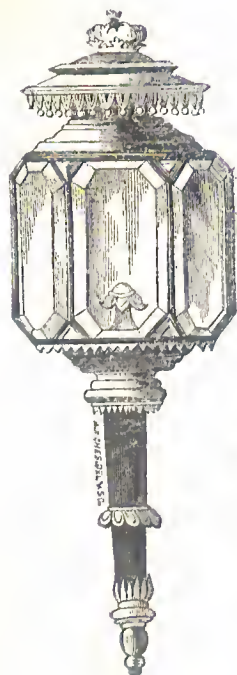


Fig. 6.—Crane Neck Rockaway.

SALADEE'S MAGAZINE, FEBRUARY, 1855.

Felch & Riches, Engravers.

Plate No. IV.

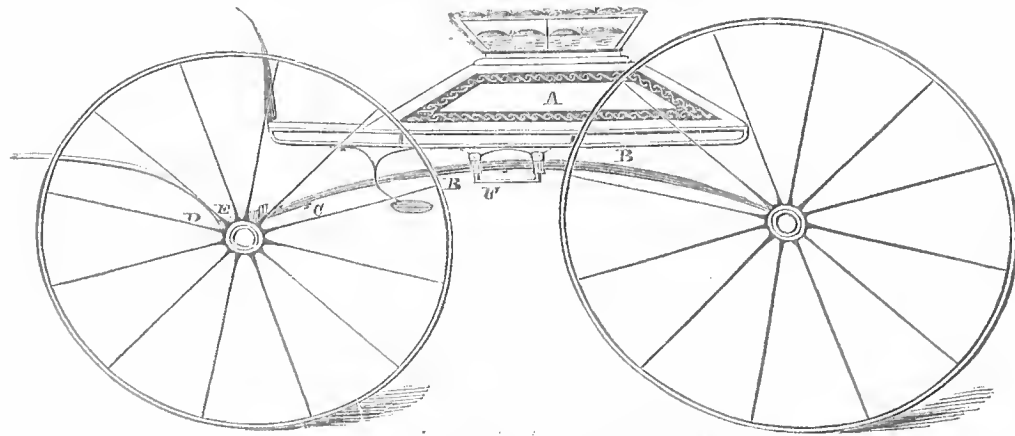


Fig. 7.—Rowley's Patent Spring Buggy.

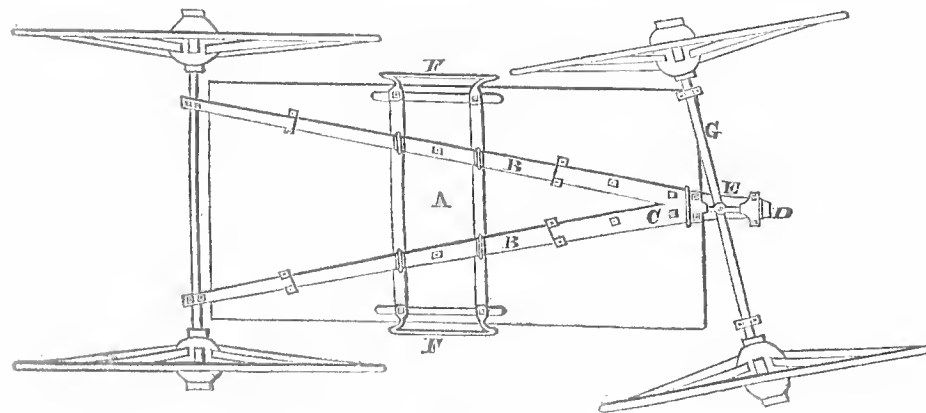


Fig. 8.

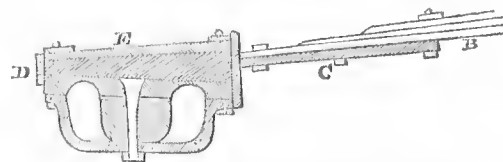


Fig. 9.

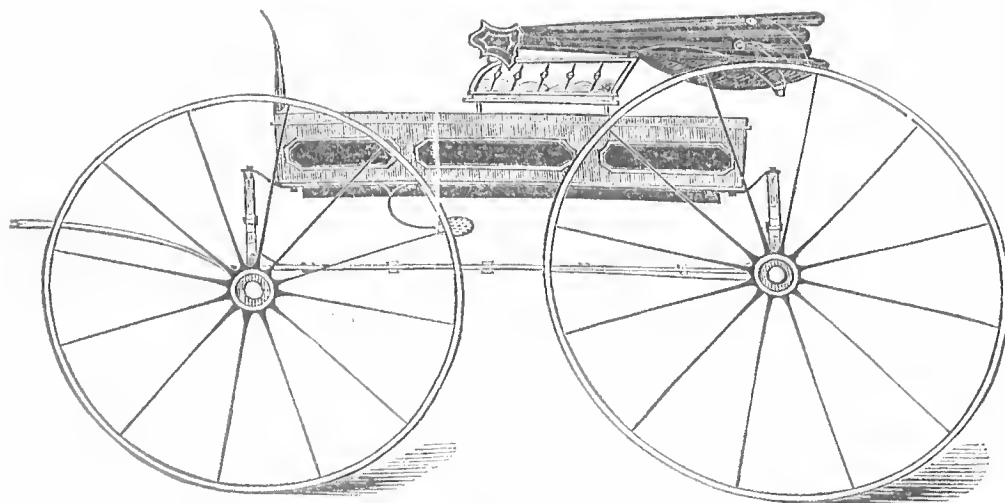


Fig. 10.—New York Buggy.

SALADEE'S MAGAZINE, FEBRUARY, 1855.

Felch & Riches, Engravers.

THE COACH-MAKERS' MAGAZINE.

C. W. SALADEE,

EDITOR and PROPRIETOR.



VOLUME I.]

NEW YORK, FEBRUARY, 1855.

[NUMBER 2.]

TERMS:

Single subscription	one year	- -	\$3 00
Clubs of three	"	- -	8 00
" " six	"	- -	15 00
" " ten	"	- -	20 00

Payable invariably in advance.

All Clubs, however, must be sent to one address.

Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented, stamped on the cover in gilt letters. All communications must be addressed to the Editor (post-paid) at his residence, Columbus, Ohio.

EXPLANATION OF THE DRAFTS.

PLATE 3.—FIG. 5.

Phæton Rockaway with Hood Top.—The drawing bearing this number was sent us by a subscriber in Mass. The following is his description of the same, including his approbation of our works:

MR. SALADEE:—I come to you an entire stranger, and without the least recommendation as to my experience as a practical coach-maker, (save what you may draw from the design I herewith contribute to your Magazine.) The motives which have induced me to address you at this time, is the high regard and approbation I feel towards the truly useful enterprise in which I am happy to see you engaged, viz: the editing and publishing of the "Coach-makers' Monthly Magazine," and I am persuaded to believe that the channel in which you are now guiding it, will result in giving universal satisfaction to its patrons. There are coach-makers enough in the United States (independent of foreign countries) to support a monthly Journal devoted to the craft, and I am also forcibly impressed with the conviction, that they are ready and always have been, to extend their aid and support to an enterprise of this kind, conducted in a strictly mechanical and scientific manner, and as the Coach Makers' Magazine now appears, it cannot, in my judgment, do otherwise than meet the highest approbation of every practical mechanic in our fraternity and consequently their united support in sustaining it. Should my contribution meet your approbation, I may be able to furnish you with some matter occasionally that may prove to some extent interesting to your readers. Having some years ago intended to publish a volume on American carriages, I have collected many things of interest and practical utility, all of which I shall with cheerfulness contribute to the Coach-makers' Magazine, if agreeable to yourself, since you are in the field. Hoping, yea, expecting to see you crowned with honor, and unlimited suc-

cess in your glorious undertaking, for the onward progress and welfare of the craft, I remain,
Your ob't. serv't.

J. D. F.

P. S. The following is a description of the draft enclosed.

The object of this design is, 1st—to represent an extension leather top. 2d—to retain a full door, either with sliding glass or curtain, the same as in all ordinary stand tops, and 3d—to represent a variety of forms in the style of the body. As will be observed, the back part of the body is a correct miniature of the original English Phæton, and the front with the dash, like all other rockaways of this class. At first sight the beholder imagines it to be a regular extension top, but a second look shows him the design is to give the appearance of the latter, while a standing top with all its advantages is retained. Thus it contains all the essential points which constitute the difference in American carriages, and these varieties thus combined in so simple a manner, are desirable objects to be attained.

When the body is being constructed, the top is built on the same principle of all standing tops only imparting to it the shape of the extension calash, which is done in the following simple manner. First, the two straight pillars on each of the doors are erected, across the top of which at a proper height, is formed the side top piece, which is got out 1 by 2½ in., extending over the front seat, at any desired distance, and back far enough to take the back bow, which is lapped into it; the back bow being set up and attached to the ends of the top tie, braced in like manner. To attach the front bow, the ends are lapped into the arm piece to the front seat, as will be seen in the draft; two full bows being all that is necessary in the construction of the top. The tops of three more bows however, are used, which are also lapped to the side of the top piece, and extending across the body for the purpose of carrying out the shape, and serving as the top strainers. This done, the frame of the top is complete, and the trimmer proceeds to the execution of his work in the same manner as other standing tops, only carrying out the appearance or imitation of the extension calash. (The idea of this design was first conceived in England, where it was called the Hood Top.) The construction of every other part of this body is the same as the ordinary solid side work.

The Painting of Fig. 5.—That part of the body which represents a Phæton side, should be claret, with mouldings black; and neatly lined with various colors; while every other part (save the door pannels) should be black.

Trimming of Fig. 5.—Top enamelled leather, a dark drab cloth is very appropriate and fashionable here for the trimmings in the seats. The head lining and festoon curtains are also of drab, but of a lighter shade.

Prices of Fig. 5.—The carriage complete, \$300.00; Body, \$28.00; Ironing, \$30.00;

Trimming, \$25.00; Wheels, No. 4; Carriage parts, No. 4.

For the Coach Maker's Monthly Magazine.

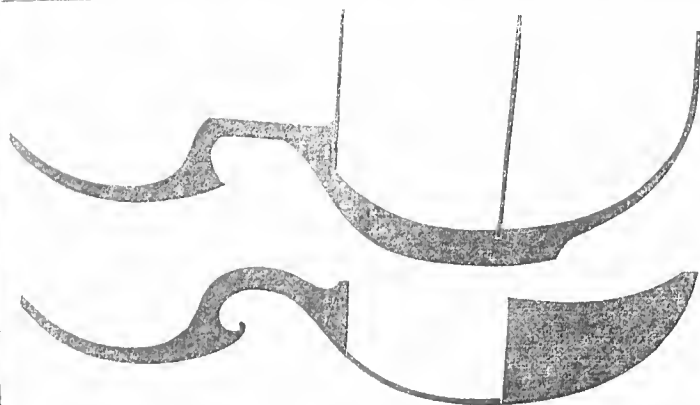
FIG. 6.—CRANE NECK ROCKAWAY.

MR. EDITOR:—Truly this is an age of progress, and of this indisputable fact we are still more fully convinced, since we have had the pleasure of inspecting the first No of the Coach-makers' Magazine. We are incapable of finding words wherewith to express our exceeding pleasure and approbation of your publications, in their present form. This is the kind of work we have always needed, and many of us have endured serious inconveniences on account of its non-existence.

We were pleased to notice in your editorial the statement that it was your design to make the Magazine a work that will do honor to that class for whom it is intended. We are proud to state in reply, that in our humble opinion, it is such already, and if continued as it now appears, it certainly is destined to elevate the mechanics of this branch of the industrial arts, to a higher and a more perfect knowledge of the occupation they profess.

But, Mr. Editor, the object of imposing this letter upon you, is for the purpose of contributing a design for a cheap yet fancy Rockaway carriage, to your Magazine, and one which we think is precisely adapted to the wants of the country manufacturers, and those operating in ordinary towns and cities, where the inhabitants generally speaking, have not the wealth to justify an extraordinary fine or expensive article, or in short such a draft as will meet the approbation of coach-makers in this and adjoining states.

This draft was called out upon seeing Fig. 3 in the January No. of the Magazine, contributed by Mr. Manley of Conn. The outline or design of that body is decidedly beautiful, and well adapted for city purposes. But its being a kind of carriage that we backwoodsmen could not dispose of, on account of the (as we call it) extravagant price, we have been prompted to attempt to remodel it, so as to make the pattern applicable to solid side work, and without bottom side or sill, and the result has been the draft now placed before you, from which one of our journeymen has completed a body; and we are satisfied it is the most fancy and yet simply constructed body we have ever gotten up, and therefore contribute the same to your work, thinking it may meet the approbation of many of your readers. The pillars are framed into the rocker the same as any other solid side standing top without sill, and in order to be brief and plain, we give below a drawing of the rocker with the pillars attached to it, and the different sections of the side, which will convey a correct idea of its manner of construction, without further explanations.



The style of trimming and painting should be the same as that of fig. 3. J. S. & CO.

Prices of Fig. 6.—\$250.00 and \$300.00; Body \$30.00, with sliding glass back; Trimming, \$18.00 to \$20.00; Ironing, \$20.00; Wheels No. 4; Carriage parts, No. 4.

English Coach Lamps.—The lamps illustrated on plate 3 are patterns from the extensive establishment of Messrs. Dawson & Co., Long Acre, London, England, and were exhibited and received a medal at the great exhibition of that city. The lamp seems always to have been a difficulty with the English manufacturers (as well as those of our own country) in regard to correct proportion and easy form; at least we have rarely seen (until of late) much success gained in attempts at their fabrication. The illustrations here given, are of good proportion and balance of form.

FIGS 7 AND 8.

Rowley's Patent Spring Buggy.—On plate 4 of this number, we have illustrated Rowley's Patent Spring Buggy. Fig. 7 is a side elevation by which the manner of connecting the spring with the body and carriage part is comprehensively illustrated. Fig. 8 is a bottom view of the same, which represents the manner of attaching the springs to the body, also the hind axles as well as the front. Fig. 9 shows the principle upon which the springs are connected to the front axle. For a further description of the buggy see advertisement. From the information we have collected respecting this improvement from those who have tested its operations, we feel no delicacy in recommending it to the consideration of the coach-makers in general, as we think it worthy of their notice. It is, we think, capable of obviating the serious difficulties attending that of Hulburt's improvement, of which we shall have occasion to speak in our next. For further particulars address Mr. R. H. Gillson, Defiance, Ohio.

FIG. 10.

New York Buggy.—This is a style of buggy as extensively in use and as highly approved of, in this city as any other manufactured, and indeed we notice more of them in the different repositories and running upon the streets of the city than almost any other denomination of buggy now in existence. Their exceeding room and lightness, combined with the strength of their simple straight bodies, gives them a prominent position among this class of vehicles. The sides of the body are $\frac{3}{4}$ in. thick, moulded off as represented in the draft, the seat resting on iron stays is frequently used without top; seat trimmed with black leather after the fashion before mentioned.

Painting of Fig. 10.—The main portion of the side may be bottle green; the three small pan-

nels black; so also, the mouldings with one delicate white line run on each panel close up to the latter.

Prices of Fig. 10.—Buggy complete, \$125.00 and \$150.00; Body \$8.00; Trimming, \$14.00; Ironing, \$12.00; Wheels, No. 3; Carriage parts, No. 3.

The Coach-Makers' Magazine.

FEBRUARY, - - - - 1855.

A STROLL ABROAD.

A fortnight ago we conceived that a visit to the country would prove a source of exceeding pleasure, after a long confinement amid the noise and bustle of the city. We proceeded accordingly to put our desire into execution, which was agreeably accomplished by the rapid strides of the iron steed upon the rail, by which conveyance we were in due season set down in the beautiful town of Salem, Ohio.

WOODRUFF'S COACH FACTORY.—Here we had the pleasure of forming a slight acquaintance with our brother craftsman Mr. D. Woodruff. This gentleman has been engaged in the manufacture of carriages in this location for twelve years. His facilities at present for executing work in every department, are such as to enable him to ship a large number of carriages to the south, in addition to supplying the home market, and we were happy to note, after inspecting his productions, that it competes with any of the eastern work in point of style and workmanship. This brother, (like many more to our knowledge,) started business in his present location without the aid of any capital whatever, but by unceasing industry and a close attention to business, he is now in possession of a large factory, situated upon his own soil, and doing a flourishing business; employing from 25 to 30 hands.

SILVER & DOLE.—We also had the gratification of seeing Messrs. Silver and Dole, inventor and manufacturers of the Hub Boring Machine, advertised in our Journal. They are making extensive preparations for the manufacturing of this truly valuable implement for the craft, and we have no doubt they will be thronged with orders for some time to come, judging from the highly approved manner in which the machine has been received by the coach-makers in that vicinity, many of whom have expressed to us personally their entire satisfaction, feeling confident that the machine is susceptible of executing the work for which it is designed, to the highest approbation of all who may give it a trial, it is our opinion that no coach-maker doing a tolera-

ble business will be without it when once it is properly introduced.

THE COLLINS' COACH FACTORY, MIDDLEBURY.—From Salem we shaped our course to Akron. While here it occurred to us that we were within a few minutes ride of Mr. C. A. Collins, another of the craft, and with whom we had some acquaintance by way of correspondence. Arriving in Akron at a late hour, we tarried for the night. Next morning bright and early we might have been seen drawing a rein over a "two forty" in a light cutter. The roads being in tolerable condition to admit of such mode of traveling, it was but a momentary task to haul up in front of the Collins Factory. The agreeable manner in which we were entertained by its friendly and gentlemanly proprietor, for one short hour, will long be remembered. This brother is located in one of the wealthiest portions of northern Ohio, within one and a half miles of Akron, which is also a rich and rapidly increasing business place, and where no work of this kind is conducted. His shops are large and well arranged, for manufacturing in all the different branches. He employs from 25 to 40 hands, the majority of whom are experienced workmen, and some of whom he obtained in the east. His facilities, therefore, cannot be excelled in constructing carriages in the best style of the art, as the finished work in his repositories fully prove.

THE TALMAGE COACH FACTORY.—Being by no means tired of the ride, we proceeded three miles farther, which brought us in front of the Talmage Factory, whose proprietors are Messrs. Ovatt & Sperry. This is also an establishment of considerable note, and like the Collins Factory located in a small village, or rather in the country. It is not a frequent occurrence in our ramblings to meet with coach-makers so independently situated as Messrs. Ovatt & Sperry. They are in possession of a mammoth building, erected upon their own land, which is extended around them sufficiently to admit of as many more buildings as they may at any time desire to have. They now employ from thirty to forty hands. They turn out a sufficient quantity of work to fill a repository in Cincinnati, in addition to filling home orders. We had but little time to inspect their work at the factory, but what we saw, was sufficient to convince us of the fact that the proprietors have ample reasons to feel a certain degree of pride in introducing their productions in any market.

CLEVELAND SHOPS.—Returning from Akron, we took the cars to Cleveland, where we had but time to call upon Mr. Jacob Lowman, and Mr. Hulburt, who are the only two extensive manufacturers in that city, and are both doing a flourishing business; employing about 40 hands each.

Having thus spent three days very agreeably among our brother craftsmen, in northern Ohio,

(and by us long to be remembered,) we returned to the capitol where we again find ourself busily engaged in drawing and writing for the Coach-makers' Magazine.

THE TIMES.

That these are serious times in regard to business and money, among all classes of manufacturers, as well as merchants and others, is too apparent to admit of controversy; and in attempting to draw a picture of the different classes which are subject to the greatest loss and inconvenience under the pressing hand of such times, when completed, (if true to our subject) we find the disheartened carriage-maker to be the most prominent figure in the fore-ground. This is readily comprehended when we take into consideration the fact that the productions of this class of manufacturers are purely articles of luxury and pleasure, while that of almost every other are to some extent articles of indispensable use, and many of them strictly necessities of life, hence the latter class can in some form work along without suffering to a very great extent, but with the coach-maker it is vastly different. When times assume their present tight position, he is among the first to feel the effects. As all persons having thought of purchasing carriages will defer doing so till times become more easy, and its being an article which they can dispense with for a length of time, they invariably conclude to do the latter, and thus the income of this class of manufacturers is suddenly cut off. The farmer, even in the best of times, puts off purchasing a carriage till everything else is obtained to make him comfortable and happy. The farm must first be paid for; the new house and barn must be erected, and every improvement made to suit his fancy, and then after a small amount has been accumulated, (and not until then) does he approach his industrious wife with the good news of great joy to her and the children, that he is going to the city to buy a carriage. Therefore, when pressing times make their unwelcome appearance, we may well judge of the many serious difficulties the coach-maker has to contend with. And this is the character that the present state of affairs assume among the majority of the carriage manufacturers in this country. The average extent to which this branch has been reduced within the last four months has not been less than thirty per cent. Some of the largest and most extensive carriage manufactories in the Union have been compelled from a sense of prudence to curtail their business to a very great extent.

Through the medium of our correspondence in Canada we are assured that quite a different state of things exist there in the business world. All is tip-toe and money plenty. But the compensation paid the mechanic is not so encouraging as that in the States, its being from \$6,00 to \$10,00 per week.

The "panic," however, that some classes of

persons have endeavored to create in this country in regard to the extreme hard times, is, we think, without substantial grounds, as our country is wealthy and prosperous, and nothing can put it down or reduce our people to the suffering of hard times so long as Providence does not visit us with famine or some other calamity. Therefore, it is folly to let the blues annoy us. There is no reason actually why we should. Then why not draw off our coats and go to work like men. Spring is coming, and with it let us hope there will come encouragement that will cast a brighter sky over every department of manufacturing.

NOTICE TO CONTRIBUTORS.—Our patrons who feel a sufficient degree of interest in the welfare of the Magazine, to induce them to contribute drawings of various kinds to the same, will please remember that no drawings made to a larger scale than $\frac{1}{2}$ in. to the foot can be admitted to our pages, as they occupy an unnecessary amount of room, and furthermore, we have stated in our first number that all drawings in the Magazine should appear laid down to the scale we illustrated in connection with our remarks in that number, which was the rule of scale $\frac{1}{2}$ inch to the foot, and as the first number of the Magazine has appeared with drawings made to this scale, it would not by any means be prudent to have those which follow it, drawn to a different one. We trust therefore, that our friends will perceive the importance of complying with this request.

The following gentlemen have had the kindness to contribute drawings to the Magazine, all of which are drawn to a different scale, and therefore cannot appear until reduced to the scale above mentioned, viz: Mr. John M. Dalton, of N. Y.; S. J. Beile, of N. Y.; S. B. Haues, of N. H.; John Clark, of Ky.; Ira B. White, of Pa.; and Jacob Miller, of Ohio. They are all beautiful drawings and good designs, and if they will have the kindness to redraw them, we shall be proud to give them room in the drawing department of the Magazine.

THE DRAWING ON PLATE 3.—It is with no ordinary degree of pleasure that we give room to the two elegantly designed carriages which ornament our first plate to this number. They are in our opinion models which are certain to meet the highest approbation of all those who are manufacturing work of this denomination. The alterations which our correspondents, Messrs. Suyter & Co., have suggested in Fig. 3 are well worthy of attention, and for which they have our sincere thanks.

However, we have seen nothing of late that pleases us so well as Fig. 5, contributed to the Magazine by Mr. Forill of Mass., and which we have no doubt will receive close attention from the craft. This gentleman is undoubtedly a thorough bred mechanic, and one who is master

of his profession. It will be seen by referring to his friendly communication on our first page, that at one time he was nearly induced to publish a work for the craft. But as we are in the field he kindly offers to contribute his productions to the Magazine, which we doubt not will prove highly interesting to our patrons. He will please accept our best wishes for the active interest he has exhibited in behalf of our publications.

PRESERVE YOUR NUMBERS.

We would advise all our subscribers who commence with the Jan. No. to preserve each copy in as clean and perfect a manner as possible, for at the expiration of the year they will make a volume of deep interest and practical utility; and not only so, but in after years will prove a source of great pleasure to look back and note the progress and improvements in this branch of the industrial arts.

APPROBATION.—Since our first number has gone forth, we have received, with much pleasure, many letters of approbation from our old friends and patrons, for which they have our sincere thanks and best wishes. Some of them we should be happy to give in this No., but a want of room keeps them back until our next issue.

We have also received various Magazines and Journals, the editors of which have taken occasion to notice our publication in high terms of praise, and among them we find the *Scientific American*, N. Y., (a mechanical journal, whose practical information and ability in the arts and sciences has given it the largest circulation of any journal of this denomination in the world, and one which no practical mechanic, of any order, should be without,) a late No. of which contains the following notice:

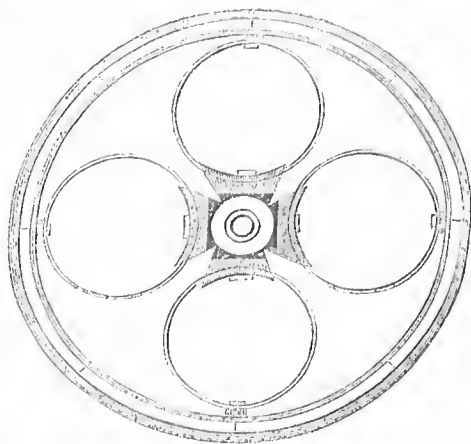
COACH-MAKERS' ILLUSTRATED MAGAZINE.—We have received the first number of a new monthly magazine of the above title, edited by C. W. Saladee, author of the "Coach-Makers' Guide." It is devoted exclusively to the arts and sciences of coach making, and all its various branches, together with the latest and most approved fashions of coaches, carriages, &c., of the day. The present number is illustrated with two plates containing four figures, embracing a buggy, a sliding-seat Calash, and two kinds of Rockaways. This magazine takes the place of the "Coach-Makers' Guide," which has heretofore been published yearly, and while it will do more good by issuing it monthly, it cannot but be more acceptable to all engaged in the business to which it is devoted. Its contents are practical and pointed. It is edited with ability, and will no doubt receive a firm support from the craft. Its price is \$3 per annum. All communications must be addressed (postpaid) to Mr. Saladee, at Columbus, Ohio.

IMPROVEMENTS IN THIS No.—In our last we stated if that number received the encouragement we anticipated, we would issue the present number, (February) materially enlarged. According to promise, we have added four pages, making it now to contain twelve pages of matter, independent of the fashion plates, and this we have done without waiting the returns of our

circulars and specimen number, which were mailed about the 1st of Jan. Feeling confident that our present course is universally approved of by the mechanics for whom we are laboring, we entertain no fears in making the enlargement, and further improvements which we are now contemplating, as we have the assurance on every hand that if conducted and continued as it now appears, it will receive the universal aid of the craft in its support. As to the course we shall pursue in future with the Magazine, the two numbers now issued and our past actions must answer. We therefore hope that our friends in the different parts of the Union, will cheerfully extend their influence so far as is practicable, in behalf of this enterprise.

IMPROVEMENTS IN FOREIGN CARRIAGES.

W. B. Adams, of England, (of whom we have before spoken,) is the author of many improvements in the English carriage. Though applicable and useful as they might have been, we find but few of them now applied in the construction of carriages by the coach-makers of his own or any other country. Nevertheless, a description and illustration of the improvements of this gentleman will prove an interesting item to the coach-makers in this country, and especially those who are unacquainted with them. We therefore give them place in our journal. The first, worthy of any notice, is his *Circular Spring Wheel*. The following is the engraving and his description of the same:



"A cylindrical iron ring, similar in appearance to an outer tire, but of considerable less weight, is first prepared. Around this ring are fitted eight felloes of wood, forming true segments of a circle. The joints of these felloes are accurately cut in radial lines, converging to a centre, and each pair of ends are connected by a dowel, as in ordinary wheels. Over those felloes an outer tire is shrunk on hot, and the whole three strata are riveted together. An outer circle is thus made, which, by its mode of construction, must necessarily have a tendency to preserve its circular form under all circumstances. It will be slightly resistant under concussions, but nothing less than a positive crushing of the parts could possibly make a permanent alteration of its arched form. To the interior tire of this ring are firmly bolted, at equal distances, four circular hoops of steel, a small block

or raiser of wood being interposed between the hoop and the tire, as a bedding or backing.—The axle-box which supplies the place of the ordinary nave, is cast in the form of a maltese cross, and to the projecting arms of it the four hoop springs are effectually secured on wooden blocks, similar to those at the periphery. One very important advantage which arises from this mode of constructing the axle-box is, its capacity for containing a circular oil chamber, around the centre of the axle arm, so that the oil is in actual contact with it, instead of feeding by a capillary action; and the due lubrication cannot by any possibility be impeded. In the naves of ordinary wheels, this very desirable advantage cannot be attained.

It must be evident that the four hoop springs, being all firmly bolted to the same centre and the same periphery, must all act together; no one of them can alter its form without the others doing the same thing, and those alterations of form must be from exact circles into ellipses. But if any alteration of form were to take place at those portions of the springs which are bedded on the blocks, they would soon work loose, and probably break at the fastenings; therefore, the springs must be so contrived that at the bearing points the thickness and width of the metal may be so increased as to prevent all movement by their rigidity; while, at the spaces between the bearings, the parts may be gradually diminished, both in width and thickness, so as to afford the needful elastic action. In this mode each spring does in fact constitute a double bow, the bearings or blocks constituting the grips or end pieces. The elastic action, therefore, takes at about an equal distance between the centre and the periphery, all around the wheel.

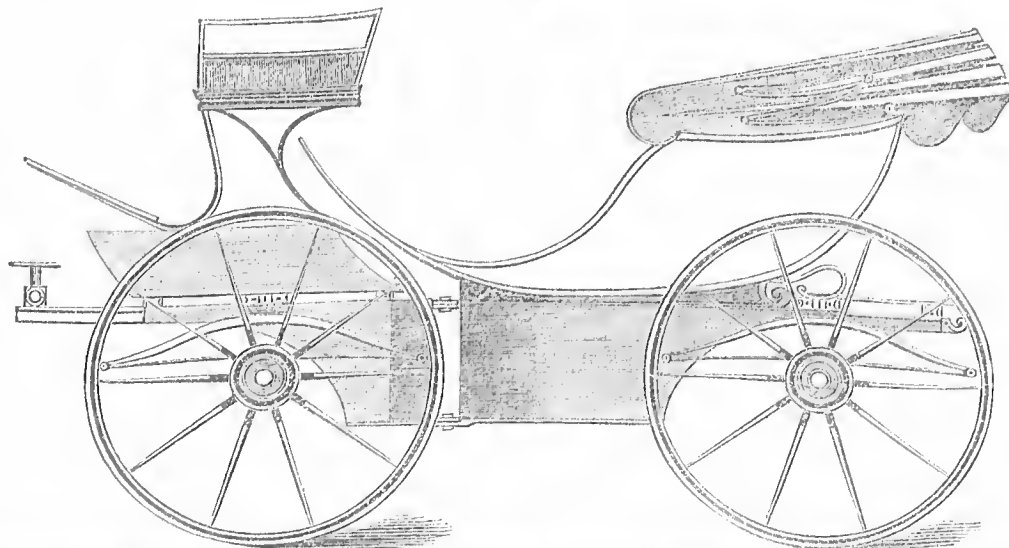
A wheel of this construction, accurately made, is, in the author's judgment, calculated to last as long as the carriage to which it may be applied. With the exception of the wearing part, viz: the tire, which, of course, would have to be renewed from time to time, their external appearance has been much admired by those who have seen them, as they are far lighter in the eye than the ordinary wheels. If, therefore, the utility prove to be as great as the author has endeavored to show, two objects will have been gained: mechanical advantage united with graceful form, &c., &c."

He goes on further to state, that he built a light phaeton with the application of these wheels, and was highly pleased with the perfect manner in which they performed, and was fully satisfied that they would render entire satisfac-

tion. Notwithstanding the author's convictions in behalf of his invention, we are nevertheless impressed with the fact that where one mechanical advantage is attained, two of disadvantage are created. That the wheel is a beautiful form, constructed as it is of five circles, will not be disputed by any one in possession of a mechanical eye. And, furthermore, its application to very light vehicles, intended for only one or two passengers, might not be an objection. But when it is compelled to carry a heavy burden, we are of the opinion that its mechanical imperfections would prove very great. First, when the downward pressure of the vehicle comes to bear upon the nave, it immediately loses its central position, owing to the elasticity of the four circular bearers; and at no time while the weight is thus resting upon the wheel, can the nave again attain its central position in the circumference of the outer circle; and thus one material imperfection is created. But let us suppose the wheel is capable of sustaining the weight laid upon its centre in a perpendicular direction, and further to test its practical qualities, let us place it upon a rough and sideling road, where almost the entire weight of the machine is frequently thrown horizontally upon the two wheels, on either one side or the other, and as no provision whatever has been made in this wheel for the reception and prevention of damages from this source, how is it to sustain itself under the heavy burden it is obliged to bear? All mechanical philosophy asserts, it is impossible for it to come out victorious, therefore, a still greater imperfection than the former becomes apparent.

Improvements in wheels, be they what they may, the inventor must necessarily make the two following principles the bases upon which to work with success: the first is a *permanent central position for the axle-arm*, and secondly, a brace to guard against the force of horizontal as well as perpendicular concussion, which is accomplished by giving it a slight dish, or by placing the spokes or bearers in a bracing position. These are the leading principles to be kept in view in the construction of any wheel intended for locomotive vehicles, and without strictly adhering to them no carriage wheel can be made to attain perfection.

But this gentleman is also the author of another improvement, and of greater importance than the one above mentioned. The carriage embracing this improvement he calls the *Equirotal Phaeton*, of which the following is an engraving:



The advantages contended for in this carriage are the facilities of turning without the interference of a high front wheel with the body, when in the act of turning, and also, the driver turning in whatever direction the horses may go, owing to the platform upon which the driver's seat is stationed, turning with the front axle, and thus give the driver every advantage over his horses. The two advantages contended for are certainly desirable objects to be attained in the construction of carriages, and could Mr. Adams' improvement be remodeled so as to be applicable to all kinds and classes of carriages, without incurring too much additional expense, it would, in our estimation, far surpass any other improvement ever introduced to the coach-makers of America. We have submitted this statement to the careful attention and consideration of our readers, fondly hoping that the ingenious and inventive class in our ranks will especially give it a few hours' reflection, as we are of the opinion that it might result in discoveries which would lead to a much desired and valuable improvement in American carriages.

SPECIAL NOTICES.

COACH HARDWARE & TRIMMING HOUSES.
—Purchasers going east for the purpose of supplying themselves with coach hardware and trimming, and should make Philadelphia a point in their trip, we would recommend them to call at W. P. Wilstach's establishment, No. 28 1/2 North Third street, where they will find a full and well assorted stock of every article used in building carriages. The inducement this gentleman holds out to buyers is sufficient to secure for him a liberal share of the public patronage, as will be seen by referring to his advertisement in this No.

HUNTER, COLBURN, EDMESTON & BARR, CINCINNATI, O.—The above gentlemen are among the most extensive dealers in every description of coach hardware and trimming west of the mountains, and coach-makers who visit the Queen city with the object of buying stock, will here find an extensive assortment of the different articles they may desire to purchase, and we are assured on the most reasonable terms, and for cash at eastern prices. Give them a call.

THE GREAT WESTERN WHEEL, SPOKE & HUB ESTABLISHMENT, CINCINNATI, O., ROYER, SIMONTON & CO., PROPRIETORS.—It is hardly necessary that we should remind the craft that this mammoth concern is still in existence, and in full operation, as this is a fact which has become universally understood throughout the entire country. But we would remind them of the extent to which they have improved their factories within the last six months. They have added to their already extensive business a building for manufacturing wheels, which is also in full operation. Their facilities for executing this branch

of the work belonging to the carriage, are such as to enable them to furnish coach-makers with wheels at rates that will be an inducement for them to take hold and test their durability, which certainly must result in the highest satisfaction, as the materials and workmen which they employ in this department is the best the country can afford. Coach-makers and others calling upon these gentlemen will be agreeably entertained whether they purchase or not, as the sight of their novel works is alone sufficient to doubly repay the visitor for his trouble of calling.

QUEEN CITY VARNISH COMPANY, CINCINNATI, O.—This Company is still engaged in the manufacturing of Coach and Copal Varnish, on the most extensive scale, and as usual are ready and willing to furnish the craft with their productions at rates and terms sure to give entire satisfaction. Their varnishes we can heartily recommend from self experience in the use of them.

EVERETT'S PATENT CARRIAGE COUPLING.
Patented by E. & C. Everett, Washington, Dec. 17, 1850.

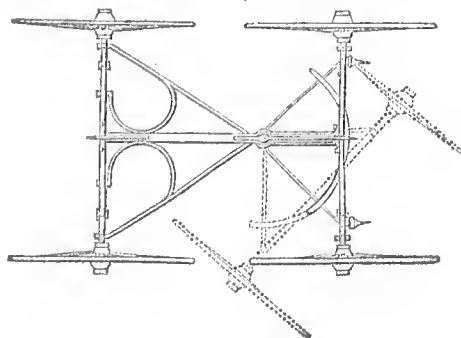


FIG. 1.

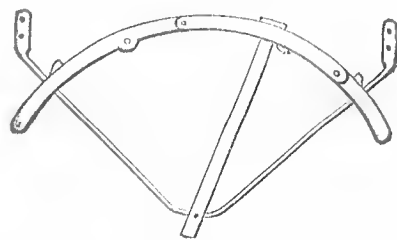


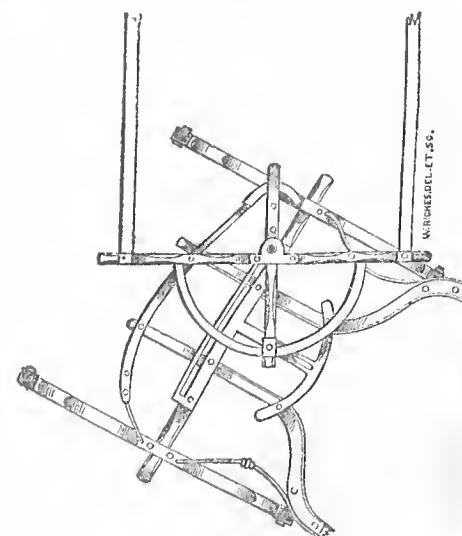
FIG. 2.

We have received numerous letters from our patrons respecting the above improvement, and for the satisfaction of such, and our readers in general, we give the above illustrations, which will serve to impart the desired information. We have before given our opinion of the practical utility of this coupling, and it is hardly necessary that we should again repeat it, any farther than to say that no carriage of the light order could be constructed for our individual use without its application. There are some minor difficulties that become apparent in the use of Everett's improvement, it is true; but, notwithstanding, when we consider the disadvantages a carriage must necessarily labor under without embracing this coupling, it is readily perceived to be far greater than those attending it with its application; therefore, we can safely recommend it to all coach and carriage manufacturers. However, for coaches, there is another and different improvement, which originated in England some few years ago. It is only

applicable to carriages suspended without perch, while that of Everett's is confined to carriages with perches. The object of these couplings, as our readers understand, is for the purpose of turning without the interference of the wheel with the body, which has ever been a great obstacle in the way of carriages of low construction, as a high front wheel could not be retained without greatly increasing the difficulty of turning, and also of oversetting, when in the act of turning. The application of these improvements entirely obviate this evil.

Fig. 1 represents Everett's patent, both in a straight and turning position. Fig. 2 shows the half circle plate which rests upon the centre of the front axle, and each end of it rests upon the iron arms which are attached to the axle, and meet under the perch, near its centre; also, the perch and head piece as it slides upon the first named half circular plate. Fig. 3 shows the English lock or coupling for carriages without perches.

FIG. 3.



INFERIOR CARRIAGES.

That denomination of carriages which comes under this head are those, most generally, which are manufactured for ready sale and speculation. In demonstrating this fact, the following reasons naturally present themselves: Carriages requiring considerable capital for their construction, and being articles of taste as well as convenience, a ready demand, at all times, is somewhat doubtful; moreover, the profit on an expensive article is always smaller than on articles of a limited outlay. Therefore, those who build carriages on speculation, naturally cut down their outlay all they possibly can, and not unfrequently use inferior materials, which could not be at all employed in carriages made to order, or by those desirous of maintaining public confidence and professional reputation. Consequently, a large quantity of carriages manufactured for sale are not only composed of inferior materials, but also of inferior workmanship. Like Hodge's razors or the Jews' clothing, they are made *for sale*. With their exterior parts neatly finished and beautifully painted, they are placed in some public locality, at auction sale, and many there are who are enticed to purchase on account of the extreme low rate they are selling, thinking they have made an extraordinary bargain. But alas! the fact is revealed too late that they are badly bitten; when, after a fortnight or three weeks' use, they are obliged, at a heavy expense, to have them repaired, or, perhaps, partly rebuilt. The fact is, that all locomotive vehicles

and exposed to severe tests, and the inferior carriage has to sustain the same trials as the one which is perfect in every particular. Plaster or ornament may conceal the defects of a badly constructed house for a long period, but a carriage, like the steam engine, is required to perform work; hence, the defects, if any, must be brought to light.

We do not wish to be understood as conveying the idea that all carriages ready made are of the inferior class, for the contrary is true, as we might name many of our most extensive manufacturers throughout the Union who, at all times, have a large assortment of work on hand, which is, in the strictest sense, composed of the first quality of materials and workmanship, and from whom a purchaser would obtain as durable and as perfectly constructed a carriage as though it were made to order. But it is equally true, that there are many manufacturers who conduct their business on the above described principle, and which has, and ever must be, to a certain extent, an injury to that class who endeavor to build none but the best quality of carriages.—And as the number of inferior carriages is nearly or quite equal to the good in market, the purchaser, as a general thing, is ignorant how to distinguish the good from the bad. If the purchaser be skillful in detecting the faults of carriages, and possesses accurate knowledge and judgment as to their excellence, he can go in any market and purchase a good article. If he also be a man of taste, he will know how to select an elegant form, without being confined to any particular style. But few purchasers can possess these advantages to a greater extent than the style of finish and perfection of model is concerned, for the reason that the inferior timber and workmanship will not become apparent, even to the best of judges, until the job is brought to the test. It is, therefore, the wisest plan for the purchaser to pay the higher price and secure the best commodity.

As carriages are articles of taste as well as convenience, he who merely requires convenience may go cheaply to work, but whosoever requires taste in addition, must in fairness pay an additional per centage to the manufacturer. If a person, ignorant of the mechanism, were to require a watch for astronomical purposes, in which accuracy was paramount to all other considerations, his wisest course would be to pay the higher price, and thus, though he might pay a trifle more than is actually necessary, he would at all events secure himself against disappointment in his commodity, and thus it is with carriages. We may use our judgment in that we understand, but when our judgment is at fault, we should patronize those whom we know to be of most repute, and by paying a fair compensation, we are sure of no deception.

THE LEASING OF CARRIAGES IN ENGLAND.

With very few exceptions, it is to be supposed that the greater number of those who can afford to indulge in the luxury of carriages are desirous of enjoying them on the most economical terms consistent with good taste, and not only as an economy of money, but also of time and convenience.

There are three modes of obtaining the use of carriages in England: first, by hiring them for short periods, as a few weeks or months; secondly, by taking them on lease for a term of years; and thirdly, by purchasing them out-

right, either ready made or made to order. The first method is the most expensive, and at the same time the most inconvenient, as they are generally inferior carriages, and charged at a high rate, to make up for the uncertainty of their being occupied, except at intervals. The second method is considered far preferable, as the builder, by making sure of the consumption of his commodity during a term of years, can afford it at a lower rate of profit, and the customer has the advantage of a carriage built to suit his own taste and convenience, knowing at the same that his total expense for the same at a certain length of time, without any anxiety as to repairs. The usual plan is, for an agreement to be entered into between the builder and the customer for the term of four or five years, the carriage to be once painted during that period, and furnished with all needful repairs, including wheels, if necessary, but the customer is made responsible for all accidents. At the end of the term the carriage again becomes the property of the builder, who sells or repairs it and enters into a new contract for three years longer, at a reduced compensation. An English gentleman taking a carriage in this manner, has all the advantages of a ready furnished house. It is essentially his own so long as he needs it, without causing him the least anxiety, and on an average, (unless of methodical habits,) it will be a pecuniary saving to him. It is true he might purchase a carriage for about the same amount he would be paying for the rent of one for four or five years, and at the end of the term have a second-hand carriage to dispose of, but when he considers that during the whole term the expenses of repairs would fall on him, and besides the trouble of directing his servants and ordering his own repairs, etc., he is convinced that he takes all the responsibility and relieves the coach-maker entirely from it.

The third method, *purchasing*, is, of course, extensively practiced, and is considered far more to the interest of the *coach-maker*, for the reason that he needs less capital to carry on his *business*. But in some large establishments where an immense capital is employed, large premises are kept with a view of carrying on the system of jobbing and hiring carriages, and it is indifferent whether the customer purchases or *jobs*. There are, like in our own country, establishments where no carriages are ever built except to order, and others again who build for ready sale and speculation. Occasionally good carriages are built on the latter plan, but as a general rule, they are, like multitudes of the American carriages thus constructed, decidedly inferior.

The following are statistical facts showing the number of carriage manufacturers, consumers, etc., in Great Britain, and the islands of the British seas, in 1851:

Cab and coach owners	-	-	2284
Coach-Makers	-	-	16,590
Coach and Carriage Dealers	-	-	17
Coach Lace Weavers	-	-	346
Coach Lamp Makers	-	-	109
Omnibus owners and conductors	-	-	3223

Contributors to this Number.

Miss VIRGINIA WATSON, of Pa.
Messrs. J. SUTTER & Co., of Ill.
DAWSON & Co., of England.
JACOB D. FORILL, of Mass.
G. H. MULLER, of New York.
JOHN E. MANLEY, of Conn.

ANSWER TO CORRESPONDENTS.

T. G. C., of Ohio.—It is not generally the case that Trimmers set their own bows, nor is it any part of their work. Nevertheless, there are some who prefer doing it themselves, in order that the shape of the top may harmonize with their peculiar taste, and for which they charge \$2. Neither is it any part of the Trimmer's duty to fit the props and apply the joints after the trimming of the job is complete, but invariably belongs to the foreman of the establishment. If no foreman is employed, it becomes the duty of the proprietor, or the man who does the jobbing.

S. T. M., of Vt.—You must apply to Mr. G. H. Muller, 154 Canal street, N. Y., who is better calculated to impart the information required than ourself, and no doubt will cheerfully grant you the favor, if a line is dropped to his address.

F. J. S., of Ill.—We have tested quite a number of springs manufactured by Messrs. Coleman, Halesman & Co., of Pittsburgh, Pa., and are sorry to say that some of them are not properly tempered, in consequence of which they settle to such an extent as to render them useless, and others again have proved to be as elastic and durable as any other make of which we have any knowledge; however, we confidently recommend those manufactured in Newark, N. J., and Greenfield, Conn.

M. M. E., of Conn.—There are quite a number of ways to season timber, but, as you remark, it has a tendency to make the wood brash. But that is owing altogether to the multiplicity of steam or heat applied. The most effectual means by which to accomplish this object came under our observation in Cincinnati, a few days ago, while at the Hub, Spoke and Felloe establishment of Messrs. Royer, Simonton & Co. They have just completed a house for this purpose, in which they dry their timber by steam. Beneath the place upon which the timber is placed, is coiled in different directions several hundred feet of $\frac{3}{4}$ inch pipe, the latter being heated with steam, which is taken from the boiler by means of a larger pipe, and is so connected that any portion of heat may be applied. Thus you can season timber in a very short time, and without doing it the least injury.

L. T., of Ohio.—We should like to see a piece of painting executed upon wood with your newly discovered varnish, as we are curious to know how a polish can be made on wood with two coats of color and varnish, and all in 48 hours. A little more light, brother T.

N. S., of Ala.—We shall be happy to have you send us a sketch of your plans for coach shops.

J. B., of Me.—The right of Hubbert's patent has been extensively sold throughout New York and Pennsylvania, and also to some extent farther west, and we have yet to receive the first letter of approbation from purchasers. We have seen personally several from Pennsylvania, all of whom are dissatisfied and sorely disappointed. We shall illustrate this buggy in our next, and notice it more minutely.

S. S. E., of Mich.—Address Mr. Calloun, Agent of the Queen City Varnish Co., and you will be answered satisfactorily.

C. W. M., of Mich.—The drafts which you state were mailed Dec. 3d, 1854, have never reached us.

T. M., of Mich.—In answer to your inquiries as to whether there is any mode by which to detect an inferior article of varnish before testing it upon the work, so as to understand whether the substances employed are of such nature as to cause it to crack or not, &c.—we know of none.

J. L., of Ohio.—A City Calash, with crane-neck front, similar to the one you describe, will appear in our next.

S. E. L., of Ind.—We shall illustrate an omnibus in time to suit your purpose.

R. L., of Vt.—Your articles contributed to our miscellaneous department have been received. They are well written and shall appear.

J. E. M., of Conn.—Shall be pleased to hear from you often.

Will our worthy friend Wm. D. Rogers, of Philadelphia, have the kindness to send us a sketch of his new factory, on a small scale, for insertion.

TABLE OF WHEELS AND CARRIAGE PARTS.

The following tables are designed to show the different proportions of wheels and carriage parts illustrated in this work. Wheel No. 1, in the table of wheels, constitutes the lightest proportions applied to the buggy, and No. 6 the heaviest used to the carriage. The table of carriage parts is laid down on the same principle. This

statement will be sufficient to show the meaning of the numbers attached to the conclusion of each draft illustrated. For example, we say at the close of our remarks, "Wheel No. 4, carriage part No. 4." By this you will understand that wheel No. 4, as laid down in the following table, is the right proportion to the draft under consideration; the carriage parts likewise.—Then all you have to do, in order to ascertain the proportion of the wheels and carriage parts, is to refer to the table given below, in which you will find the numbered wheel and carriage part called for at the conclusion of our remarks; and immediately under such number in the table, you will find what proportion constitutes the number, wheel or carriage part mentioned.—And thus you will obtain the correct dimensions.

After all, the manufacturer must consult, to a certain extent, the condition of the country for which his work is intended, in order that he may properly proportion the wheels and carriage parts; as, if the country is extremely rough and broken, more strength is required in this part of the vehicle, than though it were required to run on highly improved roads and turnpikes.

TABLE OF WHEELS.

Wheel No. 1.

Length of hub,	6 inches.
Diameter of hub,	4 "
" of point band on hub,	2 3/4 "
" of butt " " "	3 1/4 "
Spoke at hub,	1 by 1 1/4 "
Spoke at felloe,	3/4 by 3/4 "
Square of felloe,	1 "
Tire,	3/8 "

Wheel No. 2:

Length of hub,	6 1/2 inches.
Diameter of hub,	4 1/2 "
" of point band,	3 1/4 "
" of butt band,	4 "
Spoke at hub,	1 1/4 by 3/4 "
Spoke at felloe,	1 by 3/4 "
Square of felloe,	1 1/4 "
Tire,	3/8 "

Wheel No. 3.

Length of hub,	7 inches.
Diameter of hub,	5 "
" of point band,	3 1/2 "
" of butt band,	4 1/4 "
Spoke at hub,	1 1/4 by 3/4 "
Spoke at felloe,	1 by 3/4 "
Square at felloe,	1 1/4 "
Tire,	3/8 "

Wheel No. 4.

Length of hub,	7 1/2 inches.
Diameter of hub,	6 "
" of point band,	4 "
" of butt,	4 1/2 "
Spoke at hub,	1 1/2 by 1 "
Spoke at felloe,	1 1/2 by 1 "
Square of felloe,	1 1/2 by 1 1/2 "
Tire,	1/2 "

Wheel No. 5.

Length of hub,	8 inches.
Diameter of hub,	6 1/2 "
" of point band,	4 1/2 "
" of butt,	5 1/2 "
Spoke at hub,	1 1/2 by 1 1/4 "
Spoke at felloe,	1 1/2 by 1 1/4 "
Square of felloe,	1 1/2 "
Tire,	1/2 "

Wheel No. 6.

Length of hub,	9 inches.
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Diameter of hub,	7 "
" of point band,	5 "
" of butt,	6 "
Spoke at hub,	1 1/2 by 1 1/4 "
Spoke at felloe,	1 1/2 by 1 1/4 "
Square at felloe,	2 by 1 1/2 "
Tire,	1/2 "

TABLE OF CARRIAGE PARTS.

Carriage Part No. 1.

Axle,	3 inches.
Spring, 1 1/2, 3 L., length	38 "
Stays,	1/2 "

WOOD WORK.

Length of axle plates,	50 "
Axle plates at spring,	1 1/2 by 1 "
" at point,	3/4 by 3/4 "
Spring bars at spring,	1 1/2 by 1 1/4 "
" at ends,	7/8 by 3/4 "
Perch block at spring,	1 1/2 by 1 1/2 "
Circle,	14 "
Shafts at cross bar,	1 1/2 by 1 "
" at butts,	3/4 by 7/8 "
" at points,	3/4 by 3/4 "
Single tree at ends,	1 1/4 by 1 "
" at middle,	1 1/4 by 1 "

Carriage Part No. 2.

Axles,	7 "
Springs, 1 1/2, 4 L., length	40 "
Stays,	5/8 "

WOOD WORK.

Length of axle plates,	54 "
Axle plate at spring,	1 1/2 by 1 1/4 "
Axle plate at points,	3/4 by 1/2 "
Spring bars at spring,	1 1/4 by 1 1/2 "
" at point,	7/8 by 1 "
Perch block at spring,	1 1/2 by 1 1/2 "
Circle,	16 "
Shaft at cross-bar,	1 1/2 by 1 1/4 "
" at butts,	3/4 by 1/2 "
" at points,	3/4 by 3/4 "
Diameter of single-tree end,	3/4 "
" middle, 1 1/2 by 1 1/2 "	

Carriage Part No. 3.

Axle,	1 "
Springs, 1 1/2, 4 L., length	40 "
Stays,	3/4 "

WOOD WORK.

Length of axle plate,	54 "
Axle plate at spring,	1 1/2 by 1 1/4 "
" at end,	1 by 1/2 "
Spring bar at spring,	1 1/2 by 1 1/2 "
" at end,	1 by 7/8 "
Perch block at spring,	1 1/2 by 2 "
Circle,	16 "
Shafts at cross-bar,	1 1/2 by 1 1/4 "
" at butt,	3/4 by 1/2 "
" at points,	3/4 by 3/4 "
Single-tree, end,	3/4 by 3/4 "
" middle, 1 1/2 by 1 1/2 "	

Carriage Part No. 4.

Axles,	1 1/2 "
Springs, 2 in., 5 L., length,	42 "
Stays,	7/8 "

WOOD WORK.

Length of axle plate,	54 "
Axle plates at spring,	2 by 2 "
" at end,	1 1/2 by 3/4 "
Spring bars at spring,	2 by 2 1/2 "
" at ends,	1 1/4 by 1 1/4 "
Perch block at spring,	2 by 2 1/2 "
Circle,	16 "
Shafts at cross-bar,	2 by 1 1/4 "
" at butts,	1 1/2 by 3/4 "
" at point,	1 by 1 "
Single-tree at ends,	1 by 1 "

" at middle,	2 by 1 1/2 "
Pole, if any,	9 feet 3 "
Pole at double-tree,	2 by 2 1/2 "
Pole at point,	1 1/2 by 1 1/2 "

Carriage Part No. 5.

Axles,	1 1/2 "
Springs, 2 in., 6 L. length,	40 "
Stays,	1 "

WOOD WORK.

Length of axle plates,	54 "
Axle plate at spring,	2 by 3 "
" at ends,	1 1/2 by 1 "
Spring bar at spring,	2 by 2 1/2 "
" at end,	1 1/2 by 1 1/4 "
Perch block at spring,	2 by 3 1/2 "
Circle,	20 "
Shafts at cross-bar,	2 by 1 1/4 "
" at butts,	1 1/2 by 3/4 "
" at ends,	1 1/2 by 1 1/4 "
Single-tree at end,	1 1/2 by 1 1/4 "
" at middle,	2 by 1 1/4 "
Pole, one size larger than No. 4.	

Carriage Part No. 6.

Axles,	1 1/2 "
Springs, 2 in., 6 L., length,	38 "
Stays,	1 "

WOOD WORK.

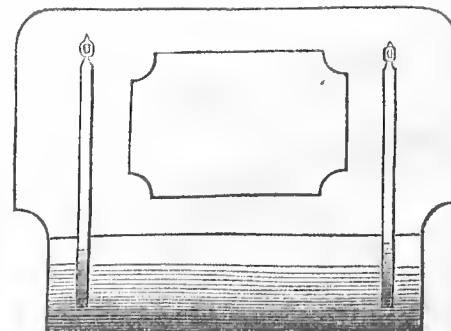
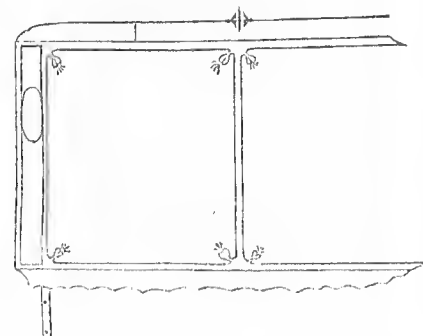
Length of axle plates,	54 "
Axle plate at spring,	2 by 2 1/4 "
" at end,	1 1/2 by 3/4 "
Spring bars at spring,	2 by 3 1/2 "
" at end,	1 1/2 by 1 1/4 "
Perch block at spring,	2 by 3 1/2 "
Circle,	20 "
Pole, 2 sizes larger than No. 4.	
Shafts not used in this size.	

NOTICE.

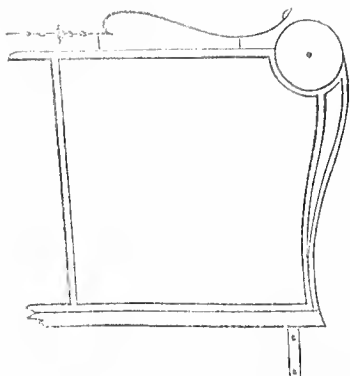
Mr. A. S. FELCH is duly appointed to act as our General Agent. He will travel through parts of the Eastern and Western States, and all business by him transacted for the Magazine, &c., in our name, is valid.

DASHES.

BY G. H. M.

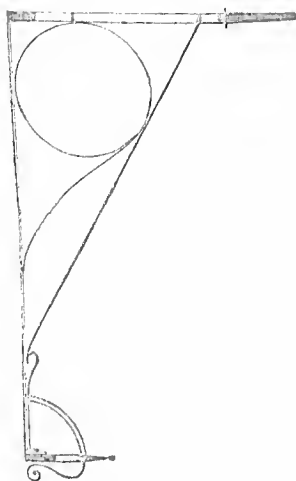


PLANE PANNEL DASH.



DESIGN OF PERCH AND AXLE STAYS.

BY J. E. M.



MISCELLANEOUS.

WHAT THE MECHANIC WANTS.

BY MISS VIRGINIA WATSON.

The Mechanic wants a stable mind,
A purpose sure and steady,
To potent industry inclined—
For business always ready.

With careful habits well fixed,
And judgment acting clearly,
To sift out truth with error mixed,
Though it should cost him dearly.

He wants a neat and prudent wife,
Who when he earns can save it;
And kindly soothe the cares of life,
(Best gift of him who gave it.)

He wants a snug and tidy home,
With health and strength together,
That he may toll to keep all warm
In cold and stormy weather.

Then blessings pure must crown the whole,
Or all his hopes are blasted;
But with this resting on his soul,
Two purest joys are tasted.

He then enjoys a bliss unknown,
To those the world calls greatest;
Known only to the working class,
The earliest and the latest.

TO APPRENTICES.—When serving your apprenticeship, you will have time and opportunity to stock your minds with much useful information. The only way for a young man to prepare himself for usefulness, is to devote himself to study during his leisure hours. First, be industrious in your business—be frugal, be economical—never complain that you are obliged to work; go to it with alacrity and cheerfulness, and it will become a habit which will make you respected and beloved by your master or employer; make it your business to see to and promote his interests; by taking care of his, you will learn to take care of your own. Young men at the present day are too fond of getting rid of work; they seek for easy and lazy employ-

ment, and frequently turn out poor miserable vagabonds. You must avoid all wishes to live without labor; labor is a blessing, instead of a curse; it makes them food, clothing, and every other thing necessary, and frees them from temptation to be dishonest.

TAKE IT EASY.—Don't allow the pebbles on your path to become stones of stumble. Even if they do, take it easy. The ladder of patience is at hand, and the smooth path of success lies beyond. If life brings a sorrow, take it easy. Sorrows are but the misty drifts in the sky, that float away in an hour. Even though they be storm-clouds to-morrow, next week will be sunny. If your brother speaks the cold word of scorn, or the bitter word of abuse, take it easy. He will be gone in a day, and a brother with a kind heart will take your hand and whisper words of cheer. It is the best philosophy, it is the best pole-star, this sentence, "take it easy." Adopt it, and see how stoically you will pass through the ordeal. But its application should not be universal. If, by any means, that little demon, Temptation, should steal away your honor, and you should do your fellow-man a wrong, don't take it easy. No, no; take it very differently—take the stain out of your conscience. Then you may take it easy again.—*Buffalo Express.*

SEVEN FOOLS.—1. The Envious Man—The man who sends away his mutton because the person next to him is eating vension.

2. The Jealous Man—Who spreads his bed with stinging nettles, and then sleep in it.

3. The Proud Man—Who gets wet through, sooner than ride in the carriage of an inferior.

4. The Litigious Man—Who goes to law, in the hopes of ruining his opponent, and gets ruined himself.

5. The extravagant Man—Who buys a herring, and takes a cab to carry it home.

6. The Angry Man—Who learns the ophicleide, because he is annoyed by the playing of his neighbor's piano.

7. The Ostentatious Man—Who illuminates the outside of his house most brilliantly, and sits inside in the dark.—*Punch.*

RAILWAY CARRIAGE OF THE KING OF DENMARK.—A carriage has just been completed at the works of the Eastern Counties Railway Company, at Stratford, for the use of the King of Denmark, on the occasion of the great Danish line now in the course of formation. The carriage has been built under the superintendence of Mr. Gooch, engineer of the Eastern Counties Railway. It is 26 feet in length and 8 feet in width. The body of the carriage is painted in a rich claret, and is tastefully ornamented. The interior is divided into three compartments, the centre being intended as a saloon for his majesty and the royal family, and the two ends being appropriated, one to the use of the attendants, and the other to the purposes of a retiring room. The sides are covered with light blue satin damask, wadded, and the roof is lined with white watered silk, edged with gimp of blue and gold. The communicating doors are of the finest satinwood, with mirrors on the panels and ivory handles on each side. The windows, which are of unusual compass, are of the best plate glass, and the blinds are of white silk and the tassels of light blue and silver. The carpet is of red velvet pile, and the vainscoting of the same material as the doors. The seats, which consist of couches, ottomans, and easy chairs of the most luxurious description, are of satinwood, and covered with

damask corresponding with the sides of the carriage; and the remainder of the furniture comprises console tables, a wash-hand stand, (having the outward appearance of a Devonport writing-desk,) book-shelves, and many other conveniences, which impart to the whole arrangement the character of an elegantly appointed suite of private apartments.—*Morning Chronicle.*

ARRIVING AT PERFECTION.—Alas! we know that ideals can never be embodied in practice. Ideals must never lie a great way off—and we will thankfully content ourselves with intolerable approximation thereto. Let no man as Schiller says, too querulously "measure by a scale of perfection the meagre product of reality" in this poor world of ours. We will esteem him no wise man; we will esteem him a sickly, discontented, foolish man. And yet, on the other hand, it is never to be forgotten that ideals do exist; that if they be not approximated to at all, the whole matter goes to wreck! Infallibly. No bricklayer builds a wall perfectly perpendicular—mathematically this is not possible; a certain degree of perpendicularity suffices him, and he, like a good bricklayer, who must have done with his job, leaves it so. And yet, if he sway too much from the perpendicular—above all, if he throw plummet and level quite away from him, and pile brick on brick quite heedless, just as it comes to hand—such bricklayer, I think, is in a bad way. He has forgotten himself; but the law of gravitation does not forget him; he and his wall rush down into a confused welter of ruins.

FIFTY YEARS HENCE.

At evening I lingered—earth's scenes I surveyed,
All nature in beauty was sweetly arrayed;
My thoughts pierced the future with feelings intense,
As I thought to look forward fifty years hence.

I thought of the deeds of the wise and the good,
Of the place where a Howarth or Washington stood;
Who labored with zeal and with ardent intense,
For blessings received, fifty years hence.

I thought of our nation, so noble and great,
Its fair institutions of learning and state;
I thought of its schools, so many and dense,
And of what they would be, fifty years hence.

Our laws, too, for wisdom and truth are far known;
May Peace sway the sceptre, and love mount the throne;
But alas! I have much feared that some might take offence,
And, trembling, I thought of fifty years hence.

I thought of society, haughty and gay,
But I woe that pure Friendship will soon bear the sway,
Removed far away from all cause of offence,
And Peace reign triumphant, fifty years hence.

I thought of the gospel which gladdens the heart,
A balm for poor sinners 'twill freely impart;
Of blessings unnumbered, arising from thence,
And the spread of true wisdom, fifty years hence.

I thought of the drunkard now reeling the street,
Who has bowed low to Bacchus—'e'en knelt at his feet;
But I hoped for the days of wisdom and sense,
For they will not be known, fifty years hence.

I thought of these changes, my mind spanned 'the skies,
And I thought, like Enoch, transported to rise;
But soon I recalled me of nature and sense,
And inquired for myself, fifty years hence.

Ah! who can this answer?—a moment may fly,
And we pass through the portals of death; yes, we lie
In the grave, till God calls us from thence—
May we all be in heaven, fifty years hence.

ANALYSIS OF A FOP.—He is one-third collar, one-sixth patent-leather, one-sixth walking-stick, and the rest kid gloves and hair. As to his remote ancestry, there is some doubt, but it is now pretty well settled that he is the son of a tailor's goose.

GOING AHEAD.

BY JOHN G. WHITTIER.

I hear the far-off voyager's horn,
I see the Yank-ee's trail—
His foot on every mountain's pass,
On every stream his sail.

He's whistling round St. Mary's Falls,
Upon his loaded train;
He's leaving on the Pictured Rocks
His fresh tobacco stain.

I hear the mattock in the mines,
The axe stroke in the dell,
The clamor from the Indian lodge,
The Jesuits' chapel bell!

I see the swarthy trapper come
From Mississippi's springs;
And war chiefs with their painted bows,
And crests of eagle wings.

Behind the squaw's birchen canoe,
The steamer smokes and raves;
And city lots are staked for sale
Above old Indian graves.

By forest lake and water-fall
I see the peddler's show;
The mighty mingling with the mean,
The lofty with the low.

I hear the tread of pioneers
Of nations yet to be;
The first low wash of waves where soon
Shall roll a human sea.

The rudiments of empire here,
Are plastic yet and warm;
The chaos of a mighty world
Is rounding into form!

Each rude and jostling fragment soon
Its fitting place shall find—
The raw material of a State,
The muscles and its mind!

A westerner still the star which leads
The new world in its train,
Has tipped with fire the icy spears
Of many a mountain chain.

The snowy cones of Oregon
Are kindled on its way,
And California's gold n sands
Gleam brighter to its ray!

A HUMOROUS SKETCH.—The difference between courtship and marriage was never more forcibly explained than in the following "Charcoal Sketch:"

"What made you get married, if you do not like it?"

"Why, I was deluded into it—fairly deluded. I had nothing to do of evenings, so I went a courting. Now, courting's fun enough—I haven't got a word to say agin courting; it is about as good a way of killing an evening as I know of. Wash your face, put on a clean dickey, and go and talk as sweet as molasses candy for an hour or two, to say nothing of a few kisses behind the door, as your sweetheart goes to the step with you.

"When I was a single man, the world wagged on well enough. It was like an omnibus; I was a passenger, paid my levy, and hadn't nothing more to do with it but sit down and not care a button for anything. S'posing the omnibus got upset; well, I walks off, and leaves the man to pick up the pieces. Bet then I must take a wife, and be hanged to me. It is all very nice for a while; but afterwards it's plaguey like owning an upset omnibus."

"Non?" queried Montoxanna, "what's all that about omnibuses?"

"What did I get by it?" continued Gamaliel, regardless of the interruption. "How much fun, why a yawning old woman and the squallers. Mighty different from courting, that is. Where's the fun of buying things to eat and things to wear for them, and wasting all good sprecing money on such nonsense for other people? And, then, as for doing what you like, there's no such thing. You can't clear out, when people's owing you so much money you can't stay, convenient. No, the nabbers must have you. You can't go on a spree, for when you come home the missus kicks up the devil's delight. You can't teach her better manners, for constables are as thick as blackberries. In short, you can do nothing. Instead of 'yes, my duck,' and 'no, my dear,' as you please, honey, and when you like, as it was in courting times;

it's a darning and mending, and nobody ever darned and mended. If it wasn't that I am particularly sober, I'd be inclined to drink—it's excuse enough. It's heart-breaking, and it's all owing to that I've such a pain in my gizzard of mornings. I'm so miserable I must stop and sit on those steps."

"What's the matter now?"

"I'm getting aggravated. My wife is a saving critter—a sword of sharpness: she cuts the throat of my felicity, stabs my happiness, chops up my comforts, and snips up all my Sunday-go-to-meetings to make jackets for the boys; she gives all the wittles to the children, to make me spry and jump like a lamplighter. I can't stand it; my troubles are overpowering when I come to add them up."

"Oh, nonsense; behave nice; don't make a noise in the street; be a man."

"How can I be a man, when I belong to somebody else? My hours ain't my own; my money ain't my own; I belong to four people besides myself—the old woman and them three children. I'm a partnership concern; and so many has got their fingers in the till, that I must bust up. I'll break, and sign over the stock in trade to you."

A PROBLEM FOR FORTUNE TELLERS.—It is said that when Louis Napoleon had announced his intended marriage, and preparations were ordered to begin for the grand procession to Notre Dame, the inquiry arose where the state carriages were to come from. The period of time was not sufficient to have new ones built, as the bridegroom desired, so that it was finally concluded to use those of the last dynasty, which were laid away at Versailles. Accordingly the coaches were brought out, and dispatched to the painters, with orders to have the arms of Louis Philippe erased, and those of the empire substituted. But when the artist had expunged the escutcheon of Orleans, he found that of the elder Bourbons beneath it, and proceeding to remove this, he discovered under all the shield of the first Napoleon. Thus the new empress rode to Notre Dame in the same coach that was used for Josephine; in the same that appeared in the procession of Louis the Eighteenth; in the same that the King of the French employed. What a commentary on the history of France in the last fifty years. Abroad, those who are fond of auguries, are but conjecturing whether this is a favorable sign or not for the future security of the young Empress. On the one hand, it is said, the succession of temporary monarchs, who used that coach forboded disaster. On the other it is asserted that the accidental discovery of the coaches of the first empire may be regarded as a lucky omen.

THE INVENTOR OF RAILROADS.—We hear the question asked, who was the inventor of railways, and have never heard it satisfactorily answered, and we believe there are very few persons in this country who know anything on the subject. Some few years ago, Howitt, of the people's Journal, gave a sketch of the alleged inventor, who, up to May, 1836, had been neglected in England. While thousands had been enriched by his brilliant scheme, he has remained forgotten—forced by poverty to sell glass on commission for a living. How many of the railway projectors, agitators, and stockholders, &c., have heard of the subject of these remarks?

"About half a century ago—the exact year is not known—there was born at Leeds, England, a man named Thomas Gray. Scarcely anything is known of his early history. He was,

we believe, a poor collier; and being very ingenious, he conceived the idea of facilitating the transportation of coal from the middle town colliery of Leeds, a distance of three miles, by means of a sort of railway. Upon this his cars moved at the rate of three and a half miles an hour, to the great merriment of a wise and discriminating public, who laughed at the idea of a railway, as something very visionary, and as the mere suggestion of laziness. Poor Gray thought otherwise. Magnificent visions of the future railways, such as are now stupendous realities, loomed up before him, and he began to talk in public of a general system of iron railroads. He was laughed at, and was declared a visionary moon-struck fool. But the more Gray contemplated his little railway for coal, the more firmly did he believe in the practicability and immense usefulness of his scheme. He saw in it all that now is realized, and he resolved, in spite of ridicule, the sneers and rebuffs that were heaped upon him, to prosecute his undertaking. He petitioned the British Parliament, and sought interviews with all the great men of the kingdom; but all this had no effect, except to bring down upon him wherever he went, the loud sneers and ridicule of all classes. Still he persevered, and at length engaged the attention of men of intelligence and influence, who finally embraced his views, urged his plans, and the result is now before the world. Thomas Gray, the inventor of railroads, who no longer ago than 1820, was laughed at for even mentioning the idea, still lives in Exeter, England, in full realization of his grand railroad schemes, for which he was declared insane. How much has the world been benefitted by his insanity?"

SIGNS OF THE TIMES—RUNNING IT INTO THE GROUND.—We are informed by one who has had the curiosity to count them, that there are one hundred and sixty-one "To Let" bills posted on buildings in Broadway alone, and that there have not been so many unrented stores in that street at any time since the great crisis of 1836-7, as the present. This is the natural result of the exorbitant rents that have prevailed in that great thoroughfare. Only a year ago, and the common price of a first floor, 20 by 80, in a good location, was \$4,500 per annum; of a whole building 25 to 80 or 100 feet, ten to twelve thousand dollars; and we know of one instance in which the owner of a fine edifice, situated not a great way from Canal street, refused to fix a definite price for the store, (20 by about 45 feet) because he had been offered so much more than he had designed asking—one application proposing \$6,000, and to deposit \$20,000 worth of good stock as collateral security for the payment of the rent—and he "didn't know where the excitement would stop." The store has not yet been occupied; has a "To Lease" notice on it at the present moment, and may be had, doubtless, for half the amount so repeatedly offered and spurned.

There was a literal truth, as well as wit, in the observation of a friend, who on being told that the rent of a store he was examining would be \$6,000, looked down into its deep sub-cellar, and expressed the belief that "they were running the thing into the ground."—*N. Y. Eve. Post.*

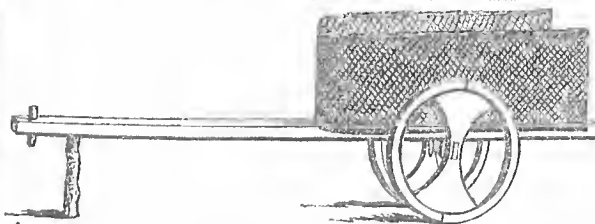
Young mechanics, who would prosper in business, have only two rules to live up to, to insure success. First, do your work as customers wish to have it done. The other rule is, to do it by the time you promise to have it done. These two rules complied with, and there is not much danger, if any at all, of a failure.

HISTORY OF THE COACH.

[INTRODUCTION CONCLUDED.]

The weight of very large solid rollers would be a great disadvantage. Under these circumstances, it would soon be remarked that it is not essential for rollers to bear on the earth throughout their whole length,—that it is sufficient if they bear at the extremity, with just so much surface as is necessary to prevent them from sinking into the ground. Most trees are found to possess the largest diameter just above the spread of their main roots. It would therefore soon occur to those who wished for large rollers, that if a short length were cut from one of the largest trees at the butt it might be joined to a similar one at a needful distance, by means of a cross beam inserted in a hole prepared for it in the centre of each. This, supposing the cross beam to be fixed in square holes, would be the rude outlines of a pair of wheels and axle of precisely the same principle as those used on the Manchester Railroad, (in England,) and other Railroads at the present day, and also by the rustic cultivators and town carmen of Portugal. Possessing this wheel and axle, it would be a very simple process to round the axle or cross beam, and place a frame on it, capable of carrying burthens; the axle being confined to perform its revolutions at or near the centre of gravity of the frame by throl pins or guides similar to the row-locks of a boat. The form of the frame would be a centre pole or beam, sufficiently long to bear the bulk or volume of the load, and also to project forward between the two draft horses or oxen. Parallel with the central beam, would be ranged two side bearers, and this would be connected together by cross framings or diagonal braces; this, then, would be a car or cart, of the simplest possible form of a wheel carriage.

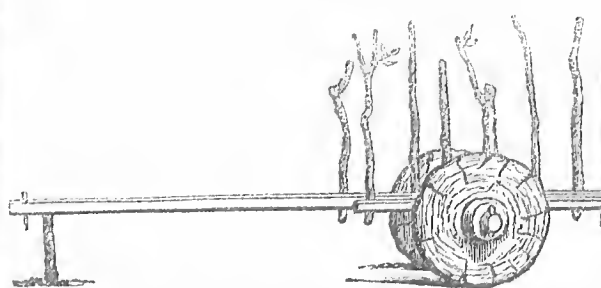
CAR OF PORTUGAL.



But it would soon be discovered that a cart thus constructed, runs best in a straight line, and that to turn it in a circle, unless it be a circle of a large

size, causes an immense amount of friction; the cause of this is that in the act of turning, one wheel has a tendency to revolve faster than the other, owing to the outer track being longer than the inner one. To obviate this difficulty, the cart maker or driver would soon become sensible of the fact that each wheel should turn on its own centre; therefore, instead of fixing the axle in square holes, the idea would readily present itself that the wheel might be attached to the cross beam or axle with a round hole, and thus obviate the former trouble. The construction of this vehicle would be precisely that of the antique cars used by the Greeks and Romans for the purpose of war and festivity, the battle, the triumph, and the olympic games, as well as for agricultural purposes; the only distinction being in the absence or presence of ornamental work, and the general superiority or inferiority of the construction, or rather workmanship. The rude carts used by the poor peasantry of Chilli, for their agricultural purposes in romantic districts are constructed in the manner and form above described.

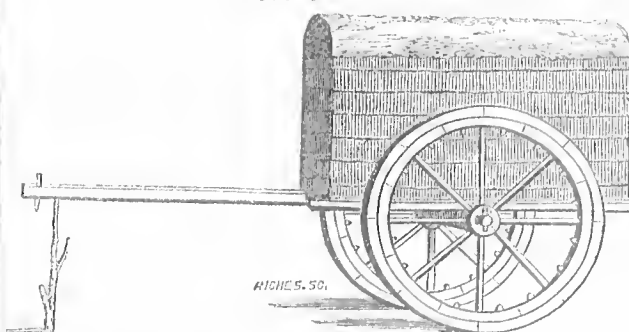
CAR OF CHILLI.



It is very evident that a machine like the one described, could not be well adapted for rapid motion, without a great expenditure of animal power, especially so if it were much loaded; the axle being of wood must necessarily be of a large size, and it working in wood also, a rapid motion would cause so much friction that it would soon be cut through, even though the hardest wood might be sought and lubricating substances applied, and the wheels procured at the expense of much hard labor, would also become useless. To procure a remedy for this great evil would be the next step of invention. The roller with the lever holes cut through and around it (as before mentioned,) would again be examined; after a short investigation, the idea of placing levers of equal length into holes around a roller of reasonable size and length, would very naturally occur to the mind of the inventor, which would show him that these eccentricities formed the outline of a large circle; encouraged by this, he would immediately set about devising some plan for attaching a rim. The first experiment no doubt gave a rude sample of crazy workmanship, at which the makers of solid wheels would laugh in scorn, and loudly rejoice when they broke down, as though to fulfil their predictions that it was useless to attempt thus to improve the good old solid wheel. But as no really useful invention can be utterly put

down, some more skillful workman, fired by ambition, would take up the fragments and begin anew, and remedy the defects, consisting not in principle but in execution, which would result in hearing all cart drivers cry out, *to a wonder!* and henceforth solid wheels would be only regarded as matters of antiquity, and a theme for surprise, that people could have been found simple enough to *make*, and others foolish enough to *use* them; but the new wheels, with naves, spokes and felloes, would be liable to the same disadvantage, viz: to rapid wear. Here, again, would the inventor be called upon for a remedy, which would be to make the axle of softer wood than the nave of the wheel, for the reason that the axle could be supplied and replaced at much less expense of labor than the wheel; as this would not be sufficient, means would be devised to cover the axle with some wearing substance, which could be removed from time to time. Nothing could be more simple or more appropriate for this purpose, than a ring of untanned neat's hide, sewed on wet and left to dry and shrink, then supplied with grease. The friction of the axle thus covered, would be comparatively small, and both axle and nave would remain serviceable for a considerable length of time; the great point of wear would be the felloes, which would be renewed as they wore. However, the frequent renewal of these felloes would loosen and wear the spokes, and therefore means would soon be devised to cover the wearing surface of the felloes with some material capable of being renewed; in the absence of metal fitted for the purpose, wood of course would be resorted to, and the mode of applying it would be to use a second set of felloes around the circumference of the first, covering each joint, and fastening them by means of tree nails and wedges; precisely such wheels as those used in the ox carts which form the trading caravans of Spanish America, (and are termed by the natives *barcos de tierra*, i. e. *land ships*, inasmuch as they ply for freight and carrying provisions and water with them over the deserts.) Their height is about seven feet, in order to lessen the draft as much as possible, and also to enable them to cross the deep streams and gulleys; the frame of the cart is such as before described, but upon it a wattling of withs or sticks is erected, six feet high, with arched top, the sides being thatched with rushes, and the roof covered with untanned hides; not a particle of metal being used throughout their entire construction.

OX CART OF THE PAMPAS.



We have now noticed most of the primitive specimens of open and covered two-wheeled vehicles, and in the improvement of their workmanship, art would for a long period find sufficient occupation;

form and ornament would now be the principal objects aimed at, and some of the results have been handed down to us in the specimens of cars used in Asia, and also among the Greeks and Romans for war purposes, which we find on antique coins, medals or bas-reliefs, (engravings of which will hereafter be presented.)

Beautiful as many of these vehicles appeared in their design and harmonious curves, they were by no means adapted to insure ease of motion unless at a very slow pace, in fact at a rapid gate the passenger riding in them would be compelled to stand erect in order to relieve his body from the unwelcome jars as best he could, by the elasticity of his feet. Whole some those cars doubtless were in the way of exercise, and exceedingly graceful when grouped with the fine horses by which they were drawn, but neither the old or infirm would use them from choice. After or before two-wheeled carriages could arrive at this degree of perfection, it is highly probable that vehicles with four wheels would be constructed for the transport of articles too bulky or too heavy for those of two wheels; such for example, as timber. This would simply be a frame of the ordinary kind, but of extra length. The wheels would be of equal height, like our modern railroad cars. It would soon be discovered, however, that such a machine was by no means adapted to turn save in a very large space; therefore some contrivance would be speedily resorted to for the purpose of having the front wheels turn under the frame. This process would be to construct a double frame; one of ordinary length attached to the hind wheels, and the other a short one, affixed to the fore wheels and axle, turning on a pin or pivot, now called perch bolt. As considerable strength would be required in the under frame, and as it would be necessary to retain the upper frame at a horizontal level, it would of course become necessary to reduce the height of the front wheels, and thus cause a mechanical imperfection, which has been perpetuated in carriages up to the present day. This imperfection consists in the increase of friction

in the fore wheels in consequence of their diminished size, obliging them to perform a greater number of revolutions in the same space of time, than the hinder ones do. Vehicles thus constructed, though they would be enabled to turn in an ordinary space, would still be awkward in narrow streets, because the fore wheels would be limited in their turning, by the side of the upper frame which carries the load. Many of the English wagons are still constructed in this imperfect manner, and many of them can be seen with an angular piece cut out of their sides to admit a larger space for the wheel to turn in. This imperfection is also prevalent throughout the United States and Canada at the present period, especially among the agricultural wagons and stage coaches, and which is the cause of the latter being overset in many instances. In order to obviate this it is necessary either to raise the upper frame, or reduce the size of the fore wheels so that they may turn beneath it. Either of these remedies alike produce a certain portion of evil, the former by raising the centre of gravity to a greater height, and thus increase the chance of upsetting; the latter by increasing the friction, and thus consume a larger amount of moving power.

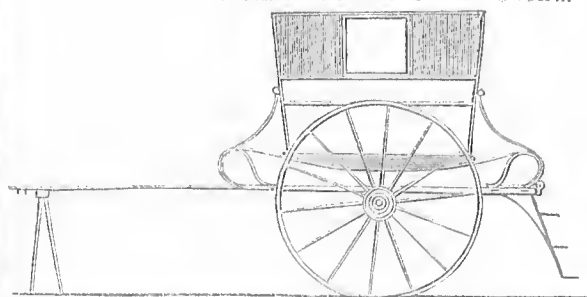
Most of the ancient coaches or covered carriages were constructed upon one plan, viz: two longitudinal timbers or beams, secured to two cross-bars at each end by scarf joints and bolts, constituted the upper frame, and as the streets of the ancient European cities were very narrow, the difficulty of turning in them experienced with such carriages, led to an obvious improvement, the invention of the crane neck; the two longitudinal timbers removed, their places were supplied by two long heavy bars of iron arched upwards in front in the form of a swan or crane neck, to a sufficient height, for the admission of the fore wheels to turn beneath them. By this contrivance a high fore wheel was retained, and a short turn accomplished. But a very considerable unnecessary weight was at the same time thus added to the vehicle, but as they were only kept by the rich who were abundantly able to afford a large amount of animal power, this imperfection to them was of little importance.

Before the mechanical art in this department had reached such a degree of perfection in the wheels and frame work, it is highly probable that attempts would be made towards the development of some means for preventing the concussion arising from the rapid motion of the wheels over rough roads from reaching the person of the passenger, as a concussion or shock is transmitted much more forcibly through a solid or firm medium, than through an unfirm one. The simplest contrivance would be to suspend a seat by straps or lashings. Specimens of this may be seen in light carts used by butchers and others in the large towns of England. The next improvement would be, by separating the sitting part altogether from the wheels and axles, and interposing a moving medium between them; the sitting part would be made an independent frame, supported on long ropes or straps stretched beneath it, and affixed by the ends to another frame firmly attached to the axles. The antique four wheel carriages of Europe used for state purposes are mostly constructed on this plan, and their great weight and slow movement prevent any violent concussion. Many of the public stage coaches of France and England are suspended on the same principle as those of America.

The Natives of Buenos Ayres, we are informed, used for the purpose of traveling, a covered two-wheeled vehicle with shafts, called a *carri coche* or cart coach. Horse flesh, owing to its abundance, is profusely wasted on the Pampas of La Plata. When used for draft the horses are not harnessed; a strap or cord of raw hide is fastened to the ordinary saddle girth, and as many as are the horses fastened to the vehicle, so is the number of the postillions. The possibility of one man guiding more than one horse when attached to a traveling carriage had not yet entered the imaginations of the Spanish American economists; as for the collar, it is unknown; the wild *Gaucha* in fact draws a carriage in the same manner as he would draw a wild bull, with his lasso or hunting noose attached to the right or off side of his saddle girth.

The *carri coche* consists of a close framed body, painted and trimmed with sliding glasses, and a door to open behind. The whole suspended on braces or twisted cords of untanned hide. When used in towns it is intended to be drawn by one or two horses with a postillion, and to carry six persons, three on a side, like an omnibus.

BUENOS AYRES CARRI COCHE.



The objections to this carriage are, that the body being fixed on two nearly straight braces, and having little weight to steady it, when on a rough road the vibrating

motion is almost as unpleasant as actual concussion. In every carriage thus suspended, great weight or inertia is absolutely necessary in order to procure ease to the passenger. To get much ease in the mode of suspending the body or sitting part of a wheel carriage by braces stretched or attached to solid supporters, it becomes necessary to have great weight. This, of course, would materially increase the weight of the machine, and prove an additional motive for resorting to some more perfect method of avoiding concussion. This would naturally be by the interposition of positive elastic substances. Elastic wood from its facility of workmanship, and also from general familiarity with its qualities, acquired by the long use of the bow as a protector from missiles would be the first resorted to.

Among the early settlers of Upper Canada and the inland portions of the United States were to be seen the rudest four wheeled vehicles used by civilized people, and some of them still remain to the present day. They are called wagons, and consist of an oblong packing case of rough boards or plank, and the fore wheels are thereby permitted to turn very slightly towards the body when in the act of turning the vehicle. They are used with one or two horses, either for agricultural or other purposes. When used as a personal conveyance, a simple contrivance was resorted to, in order to lessen concussion. A kind of frame chair, affixed to two bearers of elastic wood, which was placed inside for the principle sitters, and is so contrived as to be taken out or put in at pleasure. The modern carriage builder will more readily understand the construction of this vehicle under the name of *dearborn*, though the body part of the latter is a great improvement on the former, being neatly framed and paneled. These rude springs are also used in the construction of gigs or two wheeled vehicles, drawn by one horse. In England the use of the wooden spring was also practiced in the construction of their two-wheeled machines, being placed at right angles across the axle, and the body resting upon them. A light four wheeled vehicle was invented some few years ago (in England,) by a Mr. Johnson. It consisted of two very long light poles, connecting the hinder axle and wheels with the fore cross bar, beneath which the under frame and fore wheels were made to turn; the seat for a single sitter was placed in the centre of the poles, which by their flexibility served as springs, (similar to the long vehicle in this country known as the buck-board.) Though this vehicle was light and extremely easy to the passenger, yet owing to its great length it was a very troublesome contrivance when turning in ordinary streets. The long braces which supported the huge bodies of the lumbering vehicles formerly called coaches, were usually attached to a strong wooden pillar or frame at each end, which was either perpendicular or slightly declined outwards at the top. After a time an attempt would be made to give some elasticity to these upright pillars, but such an attempt would be very imperfect, as wood in short lengths cannot be made to carry heavy weights, and at the same time exhibit any portion of elasticity. The long bow of wood is of considerable length, the cross bow of steel is comparatively short, yet possesses more power and elasticity. These different qualities would soon be compared as applicable to carriages, and after some few preliminary experiments upright pillars of elastic steel would be substituted in place of the wood standard. At first they would be constructed of a single piece of steel of a taper form and thence by gradations, regulated by the mode of their failure. They would assume the form *lamine*, placing one against the other; and in order to give it an easy appearance, the harmonious curve imitating the letter *C* would next be applied, thus erecting the notorious *C* springs, and leather braces.

Having already extended our introductory remarks beyond a reasonable space, and perhaps to the taxation of the reader's patience, allow us to remark in conclusion, that the three points above described accomplished, a carriage would possess all the essential principles required, viz: facility of moving forward, and facility of turning round, and lastly the freedom from concussion to the passenger. The carriages existing at the present day in the highest state of perfection as yet accomplished, are simply those same three principles, only better regulated by more perfect execution of workmanship.

EARLY HISTORY OF WHEEL CARRIAGES.

CHAPTER I.

How much have the productions of that class of mechanics (to whom the history we are now opening is devoted,) added to the wants and comforts of the highly civilized people of the nineteenth century, and how much has the progress they have effected in this department of manufacturing, assisted in ornamenting and beautifying the highways of our land, and the streets of our cities. Although we live in an age of unlimited improvement, when the extensively applicable power of steam is the means by which the miring steed of iron is propelled at the rapid rate of fifty miles per hour, and through the same medium the magnificent floating palaces are being moved across the bosom of the deep in grandeur, and the

iron arms and fingers of ingenious machinery is put into life-like motion, yet notwithstanding all this, if we were deprived for a single day of beholding the moving panorama of the endless variety of coaches, carriages, wagons, &c., continually passing to and fro before our gaze, and the rumbling sound of the busy wheels, perpetually reminding us of their countless existence, and their indispensable utility, we would indeed perceive a discord in the music of business, and readily would we notice that one of the most prominent notes were lacking to complete the song of progress.

But, kind reader, we now look out upon our highways, and with no degree of astonishment do we behold them numerously dotted with the forms of wheel vehicles. Nothing strange the sight to gaze into the streets of our large cities and behold the whirlpool of excitement and confusion, originating from the almost countless number of carriages which perpetually crowd the busy street, from the splendid calash of latest style, with its servants in livery, its splendid harness with fine gilt mountings, and magnificent match steeds, down to the common dray. No department among the industrial arts brings forth an article at the present day more common among the majority of classes in civilized communities than the Coach, the Carriage, and the Buggy. They are no longer limited to the use and comforts of the nobility of the country, or those who may be in possession of princely fortunes. No; science having inspired new life and action in the mind of the ingenious workman, has brought about a mighty revolution in the carriage world, and progress being attached to its traces, has with rapid strides brought it forward to a state of perfection which places this now indispensable luxury into the hands of the public at large. Turn in whichever direction we may, the rumbling sound of the clattering coach is first to greet our ears.

But, reader, we wish now to take you by the hand, and in your imagination lead you back into the early ages of the world, to a time when carriages for pleasure were confined exclusively to the use of Kings, Queens, and the aristocracy of the land, to a time when (instead of the wheel carriage being devoted to the pleasure and comforts of the ancient people,) they were in themselves destructive weapons of war, whereby thousands of fellow beings were cut down and erased from the pages of existence. And now with your consent we will take a stroll among the far famed ancient Egyptians, that mysterious people who wrote their history, and their manners and customs of life, by means of engraved or painted figures upon the time-defying stone of the tombs, where most of them remain visible at the present day, and the earliest records of wheel carriages are here to be found. The figures this ancient people have left among the tombs, affords us an insight into their mode of making and using chariots, not to be obtained from those of any other nation. The influence that Egypt had in early times on Greece, gives to every inquiry respecting it, an additional interest, and the frequent mention of the Egyptians and their chariots in the Bible, connects them with the Hebrew records of which many satisfactory illustrations occur in the sculptures of Pharonic times. Their great antiquity also enables us to understand the condition of the world long before the era of written history. All existing monuments left by other people are comparatively modern, and the paintings in Egypt are the earliest descriptive illustrations of the manners and customs of any nation, and it is from these that we are enabled to form a correct idea of what the Egyptian chariots were like; and their manner of use and construction (sixteen centuries before Christ,) and as we are enabled to look back into this remote age of the world, and behold the productions of our Egyptian brethren, we are agreeably surprised to note how near they approached the perfection of the present state of two wheeled vehicles. Sir J. G. Wilkinson in his popular account and history of the ancient Egyptians, has furnished us with the greater portion of historical facts we shall here present, touching the chariots of that people, and which can be relied upon as strictly correct, and the first mention he makes of them, they are classed with the Egyptian implements of war. In his description he says, Vol. 1, page 368, heavy armed troops were furnished with a shield and spear, some with a shield and mace, and others, though rarely, with a battle axe or pole axe and shield. The light troops had nearly the same implements, but their defensive armor was lighter and sometimes like the archers fought without shields. The chariot corps constituted a very large and effective portion of the Egyptian army. Each car contained two persons; like the *Diphros* of the Greeks, on some occasions it carried three; the charioteer or driver, and two chiefs. But this was rare, except in triumphal processions, when two of the princes accompanied the King in their chariots, bearing the Royal Sceptre or the *Flabella*, and required a third person to manage the reins. In the field each had his own car with a charioteer, and the insignia of his office being attached behind him by means of a broad belt; his hands were free for the use of the bow and other arms. The driver generally stood on the off side, in order to have the whip hand free, and thus interfere less with the management of the bow than the Greek custom of driving on the near side, which last was adapted in Greece, as being more convenient for throwing the spear. When on an excursion of pleasure, or on a visit to a friend, an Egyptian gentleman

was mounted alone and drove himself, with footmen running before and behind the car. In the battle scenes of the Egyptian temples, the King is represented alone in his chariot, unattended by any charioteer, with the reins fastened around his body, while engaged in bending his bow against the enemy, though it is possible that the driver was omitted in order not to interfere with the principle figure. The King had always a second chariot for the purpose of providing against accidents, as will be seen by referring to the following scriptures by Moses: Gen. XII, 43. And the same was in attendance on state occasions.

The cars of the whole chariot corps contained each two warriors, comrades of equal rank, and the charioteer who accompanied a chief was a person of confidence, as we see from the familiar manner in which one of them is represented conversing with the son of the great Demosies. In driving, the Egyptians used a whip like the heroes and charioteers of Homer, and this or a short stick was generally employed for beasts of burden and oxen at the plow, in preference to the goad. The whip consisted of a round wooden handle, and a single or double thong. It sometimes had a lash of leather or string about two feet in length, either twisted or braided, and a loop being attached to the lower end, the archer was enabled to use the bow while it hung suspended from his waist.

When a hero encountered a hostile chief, he sometimes dismounted from his car, and substituting for his bow and quiver the spear, battle axe, or falchion, he closed with him hand to hand like the Greeks and Trojans described by Homer, and the lifeless body of the foe being left on the field was stripped of its arms by his companions. Sometimes, however, a wounded adversary, incapable of further resistance, having claimed and obtained the mercy of the victor, was carried from the field in his chariot, and the ordinary captives who laid down their arms and yielded to the Egyptians were treated as prisoners of war, and were sent bound to the rear under an escort, to be presented to the Monarch, and to grace his triumph after the termination of the conflict. The hands of the slain were then counted before him, and the return of the enemy's killed was duly registered to commemorate his success, and the glory of his reign. The Egyptian chariots had no seat, but in order to avoid as much as possible the concussion to the passenger, the bottom part was constructed of thongs of rope, forming a species of net work. Its elasticity serving as a kind of spring, and in order to render the motion still more easy, the wheels were placed as far back as possible, thus resting much of the weight on the horses, by means of the pole which they supported. That the materials of which these chariots were composed were principally of wood, is proven beyond a doubt by the sculptures wherever they represent them as employed in making them, and also the fact of their more than three thousand years ago having invented and introduced the use of the pole as the manner of attaching two horses to the vehicle, which is an instance that goes to substantiate the truth of Solomon's assertion, there is no new thing under the sun; and furthermore shows the skill of those workmen at this remote time. The body of the Egyptian chariot was extremely light, and in its proportions would fully correspond with those of modern times. They consisted of a wooden frame work and supported with metal and leather like many of those mentioned by Homer. The bottom part rested on the axletree, and the lower extremity of the pole, which was itself inserted into the axle or socket attached to it at the centre, and some of the chariots represented in the tombs are shown to have been inlaid with silver and gold; others painted in a variety of brilliant colors; the latter as might be expected the most numerous, sixty-one of them being mentioned to nine of the former. From the upper rim of its front to the pole, a strap was suspended, for the purpose of steadying the body, and when the horses were detached from the chariot, the pole was supported on a crutch, or the wooden figure of a man; representing a captive or an enemy who was considered fitted only for this degrading office. The greater portion of the sides and the whole of the back were open; the latter entirely so, without any rim whatever extending above the bottom, the hinder part of the frame work commenced nearly in a line with the centre of the wheels, and raising perpendicularly or slightly inclined backward from the base of the car, extended with a curve at the height of about two feet and a half in front, serving as well for a safe guard to the driver, as a support for his quivers and bow case. This bow case was frequently richly ornamented with the figure of a lion or other devices and was placed in an inclined position, pointing forward, its upper edge immediately below the flexible leather cover, being generally on a level with the summit of the frame work of the body, so that when the bow was drawn out, the leather cover fell downwards, and left the upper part on an uninterrupted level. In battle this was of course a matter of no importance, but in the city where the bow case was considered an elegant part of the ornamental hangings of a car, and continued to be attached to it, they paid some attention to the position and fall of the pendant cover, deprived as it there was of its bow, for the civilized state of the Egyptian society required the absence of all arms except on service.

[TO BE CONTINUED.]

SALVAGES

MAGAZINE

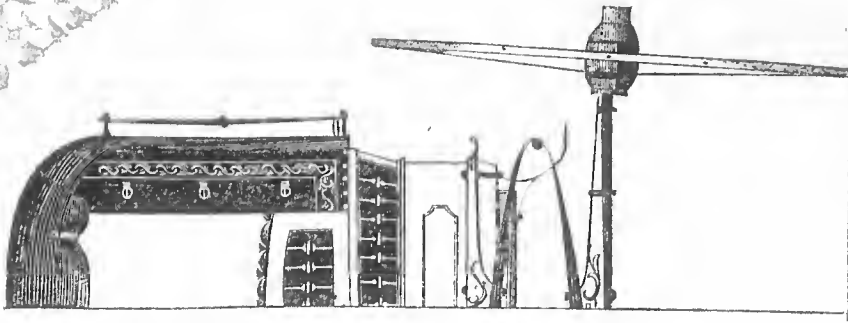


Fig. 13.

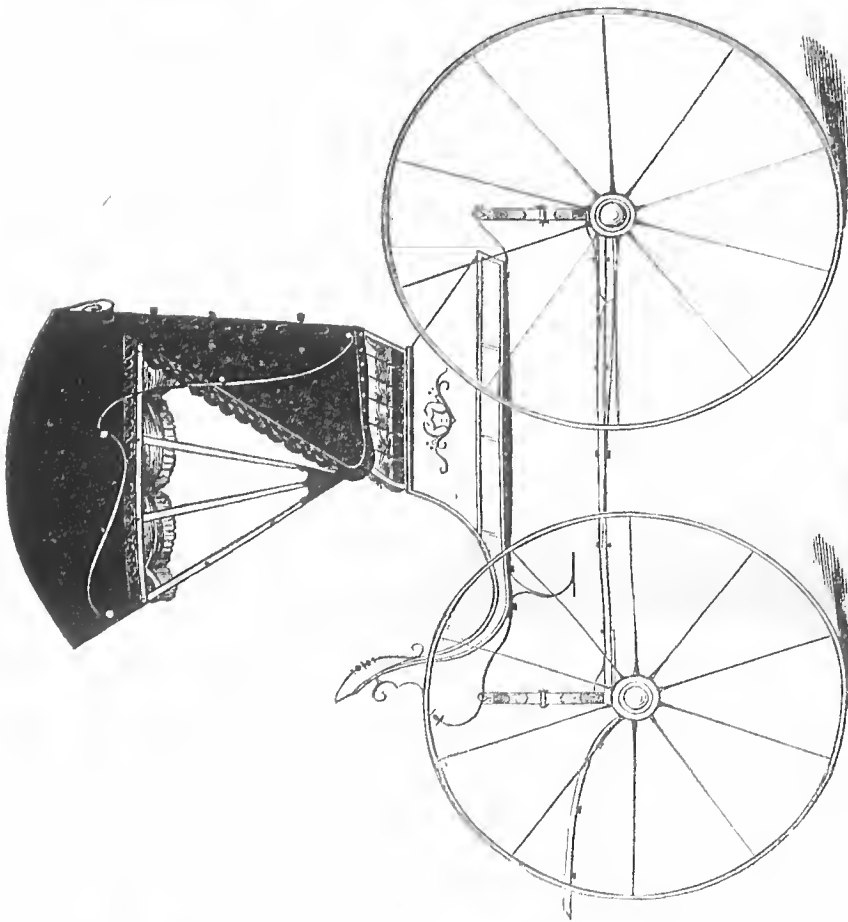


Fig. 11.—Gipsy Top Buggy.

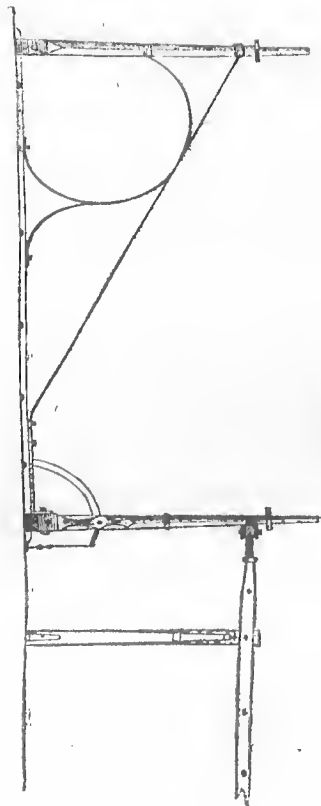


Fig. 14.

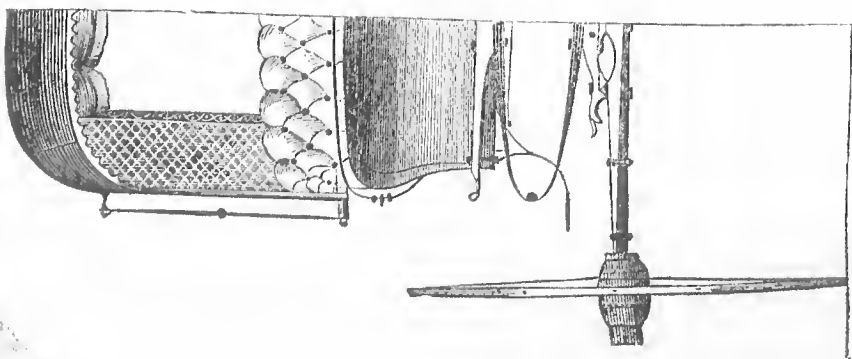


Fig. 12.

NEW YORK

MARCH, 1855.

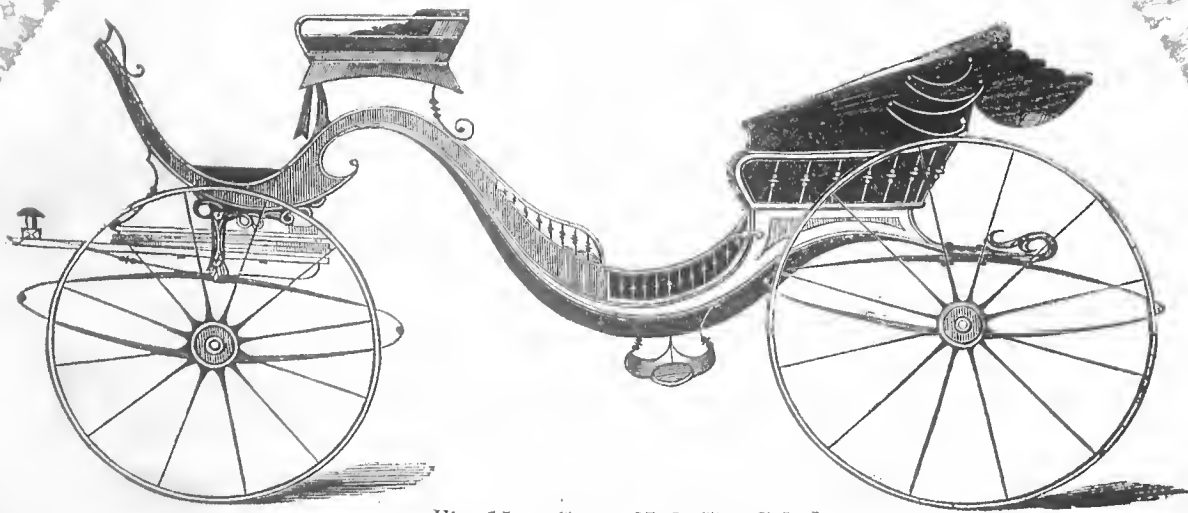


Fig. 15.—Crane Neck City Calash.

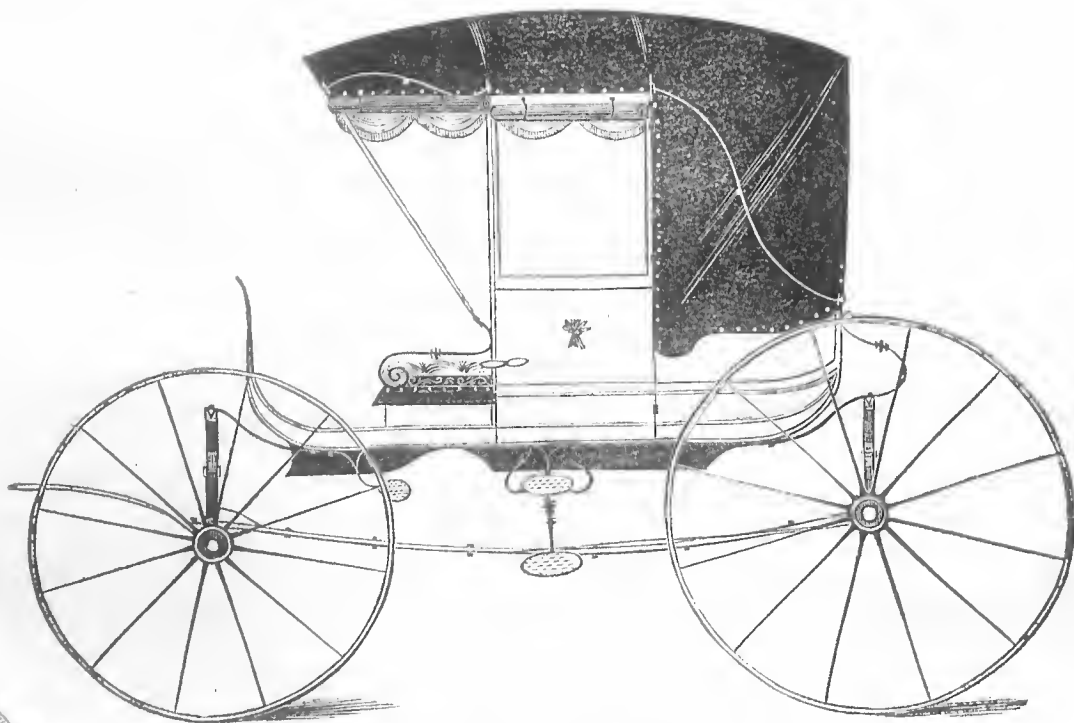


Fig. 16.—Farmers' Carriage—Hood Top.

THE COACH-MAKERS' MAGAZINE.

C. W. SALADEE,

EDITOR and PROPRIETOR.



VOLUME I.]

NEW YORK, MARCH, 1855.

[NUMBER 3.]

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EXPLANATION OF THE DRAFTS.

FIG.'S 11, 12, 13 AND 14.

The Gipsy Top Buggy.—In this drawing we present our readers with an illustration of a very desirable improvement in the finish of the ordinary calash top, and one which we have reason to believe will meet a welcome reception by the craft.

We have often observed in the course of our experience that a desirable object would be attained if by any means a top could be so constructed as to possess in itself all the essential points of convenience which the different seasons of the year and condition of the roads demand. But this we have never seen accomplished until a few days ago, when we received a sketch of the top here illustrated, through the kindness of Mr. D. S. Sampton of Philadelphia, Pa., and who gives it the name, Gipsy Top. The open top is universally admired by the purchaser, but when he comes to contemplate the disadvantages attending it in all kinds of weather, he must content himself with the close top, notwithstanding that after a summer shower he is thus deprived of having free access to seeing the moving panorama on either side as he passes along, he considers it a less evil than to be thoroughly coated with mud, which certainly would be the natural result if riding in an open top buggy with the

curtains off or rolled up, and he therefore concludes the close top is preferable. But if he could put himself in possession of a buggy whose top was so constructed as to shield him from the mud the hind wheel is ever inclined to throw into the seat, and at the same time retain the advantage of being open on the side, it would take no prophet to foretell the certainty of his choice.

The reader will perceive that this does not only retain the advantage of a close top as a preventative in keeping the mud from coming in contact with the passenger, but it also gives the trimmer a larger field in which to cultivate taste, beauty and originality in the execution of his work, and by that means impart to the exterior as well as to the interior of the top a fancy finish and appearance not to be attained in that of any other construction.

In this top then is combined in the most simple manner all the essential points of convenience which constitute the now prevalent difference existing between the use of the close and open top carriage, and also adds materially to the appearance of the vehicle. It does not leave the outline of the top appear too naked, nor yet too bunglesome or heavy. There is nothing more unsightly or offensive to the eye of the practical coach-maker than to behold a wide close top, mounted on a light skeleton body, and it becomes equally offensive on the other hand, should one of the ordinary open tops be applied to a deep sided or heavy body. But the top before you is applicable to all kinds and styles of bodies, and without doing violence in the least to good taste or correct proportion. We therefore consider it far superior to any attempt yet made at improvements in this branch of the carriage.

Where the leather comes in contact with the back bow it is permitted to extend past about 1½ inch. and scolloped in small half circles as represented, and for the purpose of making a fancy finish on the inside of these scollops, a narrow strip of light colored leather is applied, and allowing the stitching around the edge to fasten the two together; it is afterwards fastened to the bow by means of small silver or brass headed nails; so, also, around the top edge of the seat. A fancy appearance is furthermore imparted to the finish of this top by the application of the stamped figures as represented in the draft. The drop curtain on the side, forms an angle line with the front bow, while the back

edge falls nearly perpendicular, and is fastened by means of straps and buckles, as will be seen by reference to the draft. The top edge of the curtain is attached to knobs, in order that it may be entirely removed when not needed.

A further description of this carriage is entirely useless, as the manner in which our draftsman, (Mr. G. H. Muller) has executed the drawings, by giving four views, makes it more intelligible in obtaining any dimension than our pen could describe, as the measurements are correctly obtained by the rule of scale.

Prices.—Complete, \$200 and \$225; Body, \$14; Ironing, \$14; Trimming \$18 and \$20. Wheels, No. 3; Carriage parts, No. 3.

For Saladee's Magazine.

FIG. 15.

Crane Neck City Calash.

MR. SALADEE: Dear Sir—Upon seeing that you are liberal enough to throw open the pages of your Magazine to the craft, as a medium through which they may exhibit to each other the products of their genius, or the various results of their experience, I have ventured to contribute to your March number a Crane Neck City Calash, a draft of a body I have just completed for my employers. It is drawn to the scale you require all drawings to be made. I did not consider it necessary to give a front and back view of the same, as the side elevation at once shows the practical body-maker what finish is designed, or becomes necessary for the back and front. This draft, I believe, is original with myself, as I have never seen anything like this pattern before.

It makes a very showy appearance; more so, indeed, than any draft of this denomination which I have ever seen, and at the same time is perfectly simple in construction, the whole being solid side work. Body under driver's seat is contracted six inches. This body would be very becoming for a hammer-cloth seat, and straight bracket front.

Yours, &c.,

S. L. N.

For the Coach-Makers' Magazine.

FIG. 16.

Farmer's Carriage with Hood Top.

MR. SALADEE:—Seeing that you thought proper to insert the drawing I sent you some time since, and also that you expressed a willingness to give room to my contributions, I have herewith sent you a draft of a farmer's Rockaway, which I have just completed, with the hood top. For a plain, comfortable family article, I think this design will meet the approbation of many purchasers. In this carriage I inserted a deeper rocker than is usually applied, and gave it such a shape in front as to give more feet room

to the front seat, and for the purpose of giving the front wheel all the advantage possible in turning, I arched the rocker at the point where the wheel comes in contact, and which by the way I think, relieves to some extent, the heavy appearance the rocker would otherwise assume. The front seat is made permanent. Where the seat frame is connected to the front pillar it is notched out so as to come out flush with the face of the pillar, at which point it is finished with a piece of patent leather, with the lower edge neatly stitched, and nailed on with silver headed boss nails, as seen in the draft. The seat rests upon iron rods which are firmly connected to the latter, and the rocker by means of delicate bolts. I have not given you a back or front view of this body, as it possesses only the ordinary finish of the same. All body makers will understand the kind of back to apply. As it is your desire, I will make all drawings hereafter (as well as this,) to a $\frac{1}{2}$ inch scale and thus save you the trouble of reducing the same.

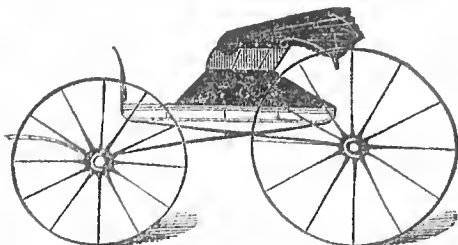
CORRECTION.—In my description of Fig. 5 your compositors make me say, "the tops of three more bows are used, &c., for carrying out the shape of the top, and serving as top strainers." I said, or meant to say, viz: three more pieces are used across the top for the purpose of carrying out the desired shape, which serve as the top strainers; not the tops of three more bows, as they would be entirely too light for the purpose. The three strainers here referred to require stiffness and strength as the durability of the top depends materially upon them.

Prices of Fig. 16.—Complete, \$175 & \$200; For body we pay \$20; if leather dash, \$16; Ironing, \$22; Trimming, \$25. Wheels, No. 4; Carriage Parts, No. 4. J. D. F.

The Coach-Makers' Magazine.

MARCH, - - - - - 1855.

HUBBARD'S PATENT SPRINGS AND GEARING FOR CARRIAGES.



The engraving above represents Hubbard's Patent Springs, applied to a light buggy, and to which its application when used upon a smooth road, is no very serious objection. But as the mechanical imperfections of this patent become so apparent when applied to vehicles of a different and heavier class, and the fact of its having created in this country an undue excitement in its behalf, and also the unreasonable extent to which Mr. Hubbard has endeavored to make the public believe it applicable, we are prompted from a sense of justice and a duty we owe to our fellow craftsmen, to pen this article and undo the bundle of inconsistencies which has been so ingeniously bound together in this (so called) improvement in carriages. And here we shall take the liberty to express our utter astonishment in seeing so many scientific men in our ranks being led away captives at first sight

of this ingenious piece of simplicity, as it was being exhibited at the N. Y. Crystal Palace, and by the agents throughout the country. And furthermore we would also confess our feeling of delicacy in moving our pen in opposition to the extensive application as claimed for it by the inventor, when we hear such giants in mechanical knowledge as our friend of the *Scientific American* exclaiming, as in the language of an inspired Prophet, that an epoch in the history of carriage building would be effected by this extensively applicable improvement of Mr. Hubbard's. Notwithstanding, however, the elevated source from which this prediction emanated, we are nevertheless forcibly impressed with the fact that the contrary is emphatically true, viz: That in a very short time it will be classed among the things that were, and only to be referred to as an improvement which utterly failed to accomplish the end for which it was designed, and in making the inquiry as to the extent of the application of this improvement, we hear Mr. Hubbard loudly contending that it is applied with the greatest simplicity to every description of locomotive vehicles, from the sulky to the railroad car; and furthermore, that they will do better service, render a greater amount of elasticity, and consequently less concussion to the passenger than any other spring ever employed. Certainly these are all desirable objects, and such as every coach-maker throughout the wide world would cheerfully embrace, in the construction of carriages. But let us inquire whether these desired objects are to be attained by the application of Hubbard's Patent. Is it (as we are told) a fact demonstrated that this improvement can be universally employed in the construction of carriages? We will let the following answer. And first let us suppose that it can be made to appear that its operations are perfect in every point of view when applied to the buggy above illustrated. Still a very great obstacle becomes apparent in the way, and one which must forever raise up in opposition to the universal application of this improvement to carriages, and that is the variety of styles and forms existing in the construction of their bodies.

Here indeed a great revolution would take effect in the history of carriage building, in order to substantiate the idle dream of its universal application. The now existing beautiful forms of two seated rockaways, with their varieties of harmonious curves, the buggy with its universally admired drop front, curved side and bottom, and the eye pleasing and highly convenient crane neck calash which is a world defiance for beauty and ornament, would all have to be thrown aside, and the fashionable world would have to content itself with a substitute which could never change its form in the least, from a straight or slightly swayed bottom body to any thing different, for the reason that the peculiar principles upon which these springs are applied forbids their being employed in vehicles whose

bodies are not either of a straight or swayed bottom, therefore it requires no prophet nor the son of a prophet to predict to a certainty the utter failure in its universal application.

An inventor who presents to the coach making public in this age of progress and fashion, an improvement which requires them to remodel their work to suit the peculiar operations of his patent right, will find very soon to the disappointment of his money making scheme, that he has directed his genius in a wrong channel, and brought his right to a dull market. But if such inventor wishes to meet with success, (let his improvements be what they may) he must bear this one important fact in mind, and see to it that the invention he is about to launch out into the world, does not demand of the public a sacrifice of convenience, good taste, and style of fashion in order to render his improvement universally applicable. And here is the great stumbling block in the way of our friend Mr. Hubbard; he flattered himself with the delusion that the advantages embraced in his invention were so desirable that the coach-making and coach consuming public would gladly dispense with the present existing variety of styles and fashions of bodies, in order that they might enjoy the comforts derived from his invention.

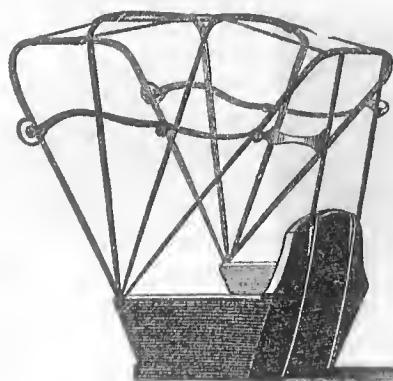
Having shown beyond a doubt, the impossibility of the universal application of Mr. Hubbard's improvement, let us now turn for a moment and notice its operations in that class of carriages to which it is applicable, and ascertain, if possible, whether it is susceptible of bearing a close inspection even there. And here we would observe, that in the construction of carriages, it becomes necessary, (as every coach-maker perfectly understands,) to give the axles a set peculiar to the operations of the vehicle. First, in order to obviate the difficulty of having the nave of the wheel to bear perpetually against the nut or linch pin at the extremity of the axle arm, it is thrown forward from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch, which, when the carriage is in motion, has a tendency to cause the wheels to play as frequently against the shoulder, as the nut or linch pin, thus creating less friction, and consequently less resistance to draft. But there is still another consideration of great importance connected with the setting of the axle arm, which is the throwing of the point downwards, so that when the wheel is applied, it will stand inclined outward at the top, thus obviating the evils which would necessarily attend the use of a wheel that would stand perpendicular. The hind wheels in the latter position would be inclined to throw all the mud they would raise from the road, direct into the vehicle, hence it becomes absolutely necessary to throw the point of the axle arm downward. Having now set our axles in the manner above described, it becomes equally necessary that we connect them to the carriage in a manner that the vibration of the springs will not by any means alter the position of the axle, and this can only be ef-

fectured by the application of the ordinary perch or the permanent connection of each extremity of the body to the front and back carriage. In either case, the springs will vibrate perpendicularly over the centre of each axle, and therefore cannot alter their position in the least.

But in the application of the improvement now under consideration, we must make a sacrifice of all those important rules, as a moment's reflection will satisfactorily prove. Let us suppose for example, that the buggy at the head of this article as it now stands relieved of all weight, embraces those all important objects in the construction and application of its axles. Next let the reader suppose himself standing directly in front of the fore wheel, facing the dash, and with his eye bent on each axle, at the back of the hub, while two other individuals are standing up in the body and by the elasticity of their limbs causing the latter to vibrate in a perpendicular direction. He will readily perceive that every movement of the springs acts upon the axle after the manner of a lever, and thus causing the spindle to revolve in its journal more or less in proportion to the action of the springs, thus making it out of the question for one wheel to follow correctly in the track of the other, and consequently it becomes apparent to the observer at once, that to give an axle any desired set for the application of this improvement, is among the things impossible. Then if we must make a sacrifice of those principles (without which no carriage can attain perfection,) is it an improvement worthy of encouragement?

If space would permit we could bring up still another consideration equally important as those already referred to, and that is the strain upon the body. But what we have said will suffice to give the reader a general idea of the mechanical imperfections existing in this improvement of Mr. Hubbard's.

HUNTINGTON'S PATENT.



Among the many improvements now offered to the coach-makers of this country is found that of Mr. Huntington, of Syracuse, N. Y. The object of this improvement is (as the inventor claims) to govern and support the carriage top in a more permanent and convenient manner than has ever before been discovered in this part of the carriage. The advantages contended for are briefly as follows: First—to obviate the evils

attending the top by the now common use of the prop extending from the back bow down to the iron attached to the seat, which when the top is thrown back, has always a tendency to cut through the leather, &c. This evil then is obviated by doing away entirely with the bottom prop, and as a substitute the two perpendicular rods extending from the back of the seat to the top are employed, by which means the top is raised or thrown back. Second—another advantage over the ordinary top is, that by the employment of this improvement a top can be thrown into a greater variety of positions and in each attitude remain firm without the least racking or shaking about. Thirdly—That it can be thus governed with all possible ease by the passenger, while seated in the carriage.

The agent of Mr. Huntington called at our office a short time since, and exhibited a model of the same, from which we sketched the above engraving. Now that the advantages contended for in this improvement are desirable objects to be attained in the construction of tops, no practical coach-maker can deny, and we think so far as the inventor claims, his improvement is fully susceptible of accomplishing this end, but still there is one thing in the way of its coming universally into use, to which we shall presently refer.

Every coach-maker who is desirous of looking at or inspecting any new invention about carriages, in a proper light should invariably let the leading inquiry be, is it capable of an universal application, and if his good judgment decide in the negative, it becomes apparent that it cannot prove to him a truly valuable invention, for if the improvement is found to possess good qualities and desired advantages in one carriage, it becomes equally desirable in all, and therefore if the principles upon which it is governed are such as to forbid its universal application, it cannot be claimed as a truly valuable invention, and consequently should not be countenanced as such. But the fact is when any new thing is presented, the public have generally been carried away by excitement, and never stop to make the inquiries that prudence really demands they should.

However, what we wish to say of Huntington's Patent is, that this one objection stands in the way of its success, viz: That it is applicable to only certain kinds of bodies, for example, it cannot be applied to bodies with O. G. backs, neither is it applicable to the multitude of light buggies with low stick seat, as the reader will see by examining the illustration, that the back of the seat from the top edge to the bottom on the outside must be sufficiently wide to permit the perpendicular sliding props to slide down to a proper extent, otherwise the top would not throw back as far as is desired, in consequence of the shallow space the props would have to move in, and he will further observe that the surface to the back of the seat or body must be either flat

or oval in order to admit of those props sliding in a perpendicular direction, therefore we say it is not applicable to O. G. backs. If these difficulties can be obviated, it will then become an improvement of great value to the craft. But as it is, it requires, (like that of Hubbard's Patent,) the coach-maker to construct his work in a manner to make it applicable to the improvement in place of the latter being made applicable to the carriage.

SPECIAL NOTICES.

OPPOSITION THE LIFE OF TRADE.—It will be seen by referring to our advertising department, that Messrs. STOTESBURY & AYRES, No. 40 and 42, North Third St., Philadelphia, are extensive dealers in every variety of Coach Hardware and Trimming. The reputation this firm has gained abroad, as well as at home is such as to set it on equal footing with the foremost houses in the eastern countries.

Also, Messrs. W. H. HORTSMAN & SONS, 51, North Third St., Philadelphia, are extensively engaged in the manufacturing of all kinds of Carriage Trimming. We have had the pleasure of seeing some of their productions, the quality and superior finish of which is such as to justify us in recommending them to the craft.

NEWARK, N. J. COACH HARDWARE & FURNISHING HOUSES.—This city has become noted among the craft for its great facilities in the manufacturing of all kinds of materials used in the construction of carriages throughout. Nothing is used about a coach which is not to be obtained here, and at manufacturer's prices. The following gentlemen are dealers and manufacturers in this city:

GEORGE ROWDEN—Carriage Trimming.

C. N. LOCKWOOD—Coach Lamp Manufacturer and Silver Plater.

WM. WRIGHT & Co.—Spring Factory.

JOHN H. TUTTLE—Manufacturer of Axles of all kinds.

COACH FACTORY FOR SALE.—We would direct the reader's attention to the advertisement of Mr. Gates, of Adams Co., Ohio, in this No. Young men now wishing to start out in business will here find a good location, with a regular run of custom, and a shop with an established reputation. This will certainly be a good chance for any one wishing to commence coach-making in this portion of the country, as the terms will be satisfactory to the purchaser.

WANTED.—We are authorized to say that Messrs. S. B. & C. Hayes, Coach-makers, of Washington, Pa., are desirous of employing a man of experience in the business, as foreman in general over their establishment. He must be a man of middle age, steady habits, and properly recommended as such by his late employer. Also, a practical workman to take charge of their smith shop. We do not understand whether

the proprietors propose giving the shop to such a man and compensate him by the piece for all work done, or otherwise; however, to men suited for the above offices, will be paid the highest salary.

These gentlemen have been doing business in their present location for quite a number of years. The extent of their business is, we should judge, from the appearance of their establishment, about \$40,000 per annum, employing constantly from 25 to 30 hands, and in addition to this they have the aid of the best machinery we have ever seen connected with any coach-shop, in all that section of country.

THE FRENCH RULE.

INTRODUCTION.

We purpose to lay before our readers in as brief, plain, and comprehensive a manner as possible, the French Rule, a knowledge of which but comparatively few at the present time possess. Its object is first to obtain by a systematic rule, the correct shapes, curves, bevels, and measurements of each piece or section which constitutes the form of a body, and by the same system to frame the various parts together correctly, without trying each part with that connected to it, till a permanent erection of the frame is desired, and when such erection of the frame is being executed, it will be found that each separate piece employed in its construction will fit perfectly in its appointed location, and the only course in which this can be made easily comprehensible through the medium of any publication, will be to give a series of different articles and drawings by which to represent it, and this being the case, we must necessarily continue it into several of the forthcoming No.'s of our journal. We therefore hope our readers will exercise a little patience in its completion.

By this rule the dimensions are all obtained from the lines drawn upon the draft board in different directions across the side elevation, which latter is in all cases first executed, therefore in making our treatise upon this important subject full and complete, we must first show the rule or manner of obtaining the side elevation of the body, and after this is done, we shall introduce the same draft board, at different times with the elevation upon it, but the lines by which it was obtained erased, or familiarly speaking, spunged off, thus leaving only the lines which form the elevation, and then we will proceed to draw the necessary lines over the elevation now completed upon the board, by which the dimensions before spoken of are to be obtained. But in each illustration, we will draw no greater number of lines than we shall be able to fully explain. Otherwise, if we should represent the draft board with side elevation, and the multiplicity of lines which must necessarily be drawn over it, we would at once confuse the mind of the reader, and thus disable him to comprehend but very few, if any of the lines drawn.

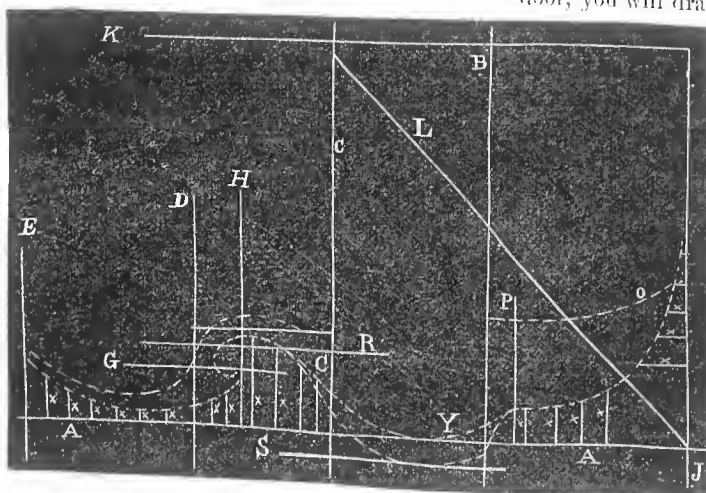
In order then to obviate this difficulty, we have adopted the course above stated, viz: of illustrating the board at various times, and on each showing the principle of managing this rule in the different parts and sections of the body, and thus as we progress step by step, we shall be able to become familiar with the object of each line illustrated.

But before closing our introductory remarks, we beg to say to our young and inexperienced friends and readers who may undertake to solve the principles of this rule, should all appear dark and mysterious at first sight, not to become discouraged, and give up the pursuit but to exercise a proper degree of patience and perseverance in the study thereof. As it is a rule (which if they have a desire of competing with scientific workmen) they must acquire sooner or later, and hence the importance of understanding it. When once the first principle upon which it is governed is comprehended, you will experience little or no trouble in seeing the mark posts in the distance which will lead you onward and upward to a perfect knowledge of the principles which constitute the French Rule.

And now if the reader will take upon himself the honorable title of the workman, and will have the kindness to lay down his draft board, and hand us his straight-edge, chalk and rule, we will proceed to direct him in the study before us. But first, let us decide what kind of body we are going to build. Well, suppose we say the body to Fig. 3, on Plate 2. The first thing then will be for us to make a side elevation of the same upon our board, which will be done as the reader understands from the drawing, which is made $\frac{1}{2}$ in. to the foot. We will therefore proceed to lay the rule before you, of obtaining a side elevation of Fig. 3, from the scale $\frac{1}{2}$ in. to the foot.

ARTICLE NO. 1.

Side Elevation of Body.



EXAMPLE NO. 1.

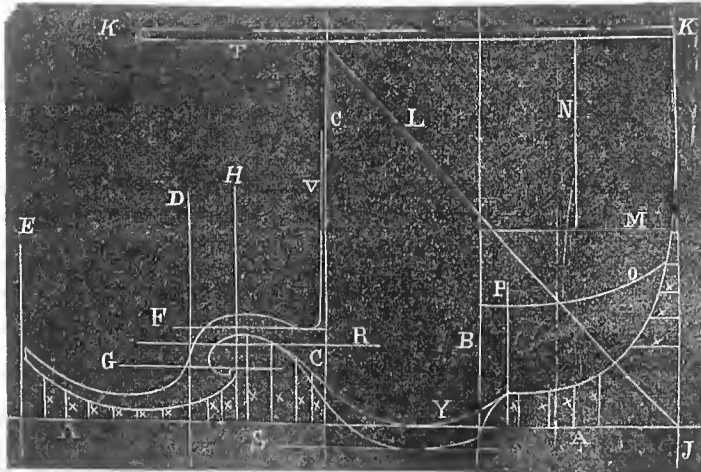
We will now draw the base line A. A., parallel with the bottom of draft board, and next line J., perpendicular and square from A. A. Now measure the length of the back quarter at top in drawing Fig. 3, which you will find ac-

ording to the scale 23 inches; then draw line B. 23 inches from and parallel with line J. from the base line A. Next ascertain the width of the door in like manner, and draw line C. C.; next measure in drawing from line C. to the point of the scroll, and draw line H., also perpendicular from base line; having done this, ascertain the width of the front seat, and draw line D.; next length of toe-board, and in like manner draw line E. We have now six perpendicular lines drawn from line A. A., which gives us the spaces for toe-board, front seat, door, and back quarter. We will now proceed to draw all the necessary horizontal lines, and first ascertain the height of body from the lowest part under the door, and draw line K. parallel with base line. It now becomes necessary that you should take a sharp pointed pencil and make a base line on the drawing you are working from, which you draw parallel with the upper edge of the side top tie, and to connect with bottom side at the deepest point under the door, for the purpose of getting the desired dimensions from the drawing, as you will hereafter see. You will next draw a line perpendicular (from the one last mentioned in the drawing) at the back part of the body, which illustrates line J. on the draft-board; with those two lines drawn on draft Fig. 3, we are prepared to get the necessary dimensions therefrom, in order to complete the side elevation on the draft board. You will now ascertain the distance in the drawing from base line to the bottom of the window in back quarter, and draw line M. as in example 2. Next see the number of inches the top edge of the scroll at point is above the base line in Fig. 3 and run line G. You will now perceive where line G. and H. intersects is the exact locality for the point of the scroll. You will next ascertain the distance from base line to bottom of rocker, where it runs across the scroll in front, and make line R., and having ascertained the width of the rocker under the door, you will draw line S. Having now drawn

all the straight lines necessary for the present, we will next proceed to draw sweep line Y., which gives us the sweep of the back quarter, or in short the shape of the body or bottom from one end to the other, which is obtained by the aid of line L. and short lines x. First draw line L. from the point where line J. and base line connect, to line C. C. at top tie. Then ascertain the space from the sweep line Y.

where it crosses line L. to the corner of lines A. and J., and make a mark on line L. at this point (as shown) which gives you the shallowest point in the back quarter; you will then draw in your short lines x as many as you may think necessary, the proper length and perpendicular with the base

line A. and J., the ends of which will show you the exact locality of the sweep line Y. You must now use your own judgment to a certain extent in getting a true sweep. First take a sharp edged piece of chalk and make a dotted line all the way round in order to assist you more correctly to draw the full line. Having made dotted outline, Y., you will find little inconvenience in drawing the thorough line as represented in the following :



EXAMPLE NO. 2.

The curve of line O. can also be obtained by the aid of lines x., only letting them run higher up. Line P. is designed to show the point where the drop of the door is commenced. Line N. the space for the window in back quarter. Line T. width of top tie. Line V. front of pillar. Line F. is to show the highest point in the side immediately in front of the front pillar. Having now completed our side elevation, we will sponge off all the straight lines drawn about it, retaining only the base line A. A., from which we must work hereafter.

Our next step will be to make the patterns to correspond with the elevation now completed, examples of which will be given in our next.

We have secured the contributions of Mr. FLOWERS, of Detroit, Mich., and we had hoped that his first articles would reach us in time for this number, but coming to hand just as we are going to press, it is out of the question to complete his engravings for this issue. However, they shall appear in our next.

This gentleman, we are pleased to know, is a thorough bred mechanic of our order, is a good writer, and a man of long experience. The rules that he will lay before the readers of the Magazine cannot do otherwise than meet their universal approbation and approval. He will appear in each number at least for one year from April 1st, 1855.

Those of our friends who have expressed the desire of seeing in an early No. of the Magazine the illustration of an Omnibus, shall be accommodated in our next; when we will give a side elevation, together with a front and back view. Also, a design for a coach-shop, by Mr. J. D. Forill, of Massachusetts.

THE DRAWING DEPARTMENT.

Doubtless the great army of coach-makers, whom the Magazine has now the honor of favoring with its monthly visits, will be highly delighted with the improved appearance of the drawing department in this number. The reader will perceive with no ordinary degree of pleasure, that the Magazine is receiving additional improvements in every No. as it progresses. *Onward!* is the watchword of the age in which

we live, and this is the motto we shall ever strive to keep before us, and have it written on every page as we proceed in the publication of the Coach-makers' Magazine. The liberal encouragement we have already received from the hands of the craft, is such as to prompt us again to repeat our determination of making the Magazine a publication that will do honor to that branch of the industrial

arts to which it is devoted, and while we are thus laboring for the onward progress of coach-making in all its various branches, we hope our friends (throughout Europe as well as at home,) will not seek to hide the little knowledge they may possess in either of those branches, by refusing to extend us a corresponding hand. A goodly number of our American brethren have already offered us many valuable contributions, and it is our wish that many more should imitate their example. We wish to establish an extensive correspondence, and by this means we shall be enabled to make our journal still more useful and interesting to its numerous readers.

The drawings on plate 6 are beautiful designs. Fig. 15 will certainly meet the approbation of city coach-makers. We would suggest, however, that the front be made lighter; we think the dash appears somewhat too heavy. We hope Mr. Newman will remember us again. Mr. Forill's carriage, Fig. 16, is a good draft for a family carriage, and think it is sure to meet the approval of that numerous class whose name it bears, viz: the farmers.

The Magazine will be mailed regularly hereafter on the first day of every month. Hence it is that the present No. visits our patrons at a later date than the one preceding it.

Our fair correspondent proves herself quite a writer, and no doubt a favorite with our readers. Her story of Yankee Dave we imagine will bring a smile to the face of many a laborer in our vineyard. She has also sent us a beautiful poem entitled "The Chariot," which shall appear in our next.

CONTRIBUTORS TO THIS NUMBER.

Miss VIRGINIA WATSON, of Pa.
Mr. G. H. MULLER, of N. Y.
Mr. J. D. FORILL, of Mass.
Mr. G. S. McROSE, of Me.
Mr. J. C. CROKER, of Ga.
CYRUS N. HARDEN & BRO., Mo.
J. R. GATES, of Ohio.
CHA'S HOLTS, of S. C.
S. L. NEWMAN, of Conn.
A. D. STOKES, of Ia.
D. S. SAMPTON, of Pa.

ANSWER TO CORRESPONDENTS.

M. S. Mc., of Ala.—The drawings you sent us representing your improvements in carriage parts are received, and noticed. We would suggest that you contrive some means by which you can do away with the sliding loop connected to the front axle, as the multiplicity of friction attending it is such as to render it anything but desirable. The object of your invention is a good one, and if the difficulty above referred to can by any means be obviated, it will certainly meet the approbation of the craft.

C. F. A., of Pa.—Your plan for setting bows is very good. Send sketch or daguerrotype of the machine, and we will insert it. We think, however, that the Messrs. Hayes, of Washington, Pa., and of Wheeling, Va., are the inventors of a top-setting frame which is more simple and complete than yours. However, we should be pleased to see a drawing.

J. J. Mc., of Tenn.—Our correspondent of Augusta, Ga., in this No., will in part answer your inquiries. We do not suppose that those old works are now to be had this side of the waters.

A. L. of Ohio.—A draft of your improved singletree is at hand. The principles it embraces in detaching the horse from the vehicle is old, but the manner in which you have employed them in yours is different from those we have previously seen. Still we do not think that the object to be attained in the use of them, would justify the expense of their complicated construction and application.

J. S. E., of N. Y.—The publications you refer to can be obtained at Appleton's Publishing House, Broadway.

S. T., of Va.—We think not. However, we will not be positive, until we could see your design. Have the kindness to send it and we can answer you correctly.

L. S. M., of Ia.—No pannel should be canvassed immediately after it is put into the body, or while the pannels are still wet from the operation of warping, but should remain a sufficient length of time to become thoroughly dry and set before the canvass should be applied.

J. B. M., of Ohio.—We will probably gratify your wishes in our next.

Z. N. S., of Me.—We purpose in course of the year to illustrate from time to time all new improvements in carriage harness, as well as the carriage itself, as it is a branch of the business; therefore any new designs you may see proper to send will be inserted.

L. D., of N. Y.—We have seen quite a number of wheels constructed upon that plan. The lancing position of the spokes is a great strength and support to the wheel; but one objection is, the complicated appearance it imparts to the hub, which at once offends the eye. Especially so if the wheel is intended for a very light vehicle, and therefore should conclude it would become more offensive in a wheel as heavy as you mention.

S. B. N., of Mich.—You will receive the desired information by addressing Mr. Hulbert, of Cleveland, or Mr. Jacob Lowman, of the same city. Both these gentlemen are extensive carriage manufacturers in that city.

S. S. S., of Ohio.—We have no such drawings, but our draftsman, Mr. G. H. Muller, 151 Canal st., can furnish them. He has now on hand some beautiful specimens of railroad drawings. By sending him a sketch of what you want, he can execute the drawings in a manner that will meet your highest approbation.

T. N., of Mass.—We shall be pleased to insert your contributions.

S. T. S., of Mo.—The arched axle is nothing new. Messrs. Utley & Wolf, of Chappell Hill, N. C., have gotten up precisely the same thing and made application for patent, but failed to obtain it.

J. P. H., of Ohio.—To your first query we reply that of black Drop black is generally considered superior to any other now in use. Second—To one pint of varnish you can add 1 oz. of dryer without the fear of doing it any damage. Third—Owing to how your color is mixed. If considerable oil is employed, it becomes necessary to put in a larger quantity of dryer than would be otherwise needed. But most light colors prepared in the ordinary way should not receive so much dryer or darker colors. Fourth—No piece of painting should be lined or ornamented without first receiving a light coat of varnish. Fifth—Lake color is obtained at almost any of the druggists, and to which you can impart a lighter or darker shade by the application of white or black.

For the Coach-Makers' Magazine.

HUNTINGTON, Ia., Feb. 3, 1855.

WAGONS WITH AND WITHOUT SPRINGS.

MR. EDITOR:—I take this method of asking you one question, with the hope of obtaining an answer. In the course of my experience in the manufacturing of wagons, I have frequently noticed this difference existing between spring wagons, and those without springs, viz: That the former do actually follow the horse with less resistance to draft. Take, for example, two wagons, each weighing say 600 lbs.; one, however, is constructed with springs, and the other without. Next, we will suppose each wagon to contain a burden of 1000 lbs., and horses of equal weight and strength attached to each. It will be found that on a rough and stony road, the wagon with the springs follows the horse with much less resistance to draft than the other. The fact first presented itself to my mind when a neighbor and myself emigrated to this country from Pennsylvania some years ago. I had a spring wagon with two horses, my friend had a wagon, if anything, lighter than mine, without springs, and I am sure a much better span of horses. However, at the set of sun each day, his horses exhibited a more tiresome appearance, and very much more fatigued than mine. I finally suggested to my friend that this difference existing in the wear of our horses, in the course of our journey, must be owing to the axle trees; (his being wood and mine iron, and both made by me. But he, on the contrary, contended it must be on account of mine having springs, and upon further observation I find the latter to be correct beyond a doubt. Four years ago this winter, I built a wagon for a Mr. H—, a farmer of considerable note in this vicinity, for two horses, and of course without springs. Last fall he ordered another wagon, made somewhat heavier, with platform springs, and body suspended without perch. He has since informed me that he can draw a much heavier load with more ease to the horses on this spring wagon than on his other before mentioned. That this is a fact existing between the two wagons as above described, is beyond all dispute; but why it is so, mathematically speaking, I do not know, but I do know that such is practically the case. Will you throw a little light upon this matter, and show (as I believe you are capable of doing,) the mechanical philosophy as to the cause of this difference.

Yours, truly,

ABRAHAM D. STOKES.

In answer to our correspondent, as to the cause of spring wagons having less resistance to draft over rough roads, &c., we would remark that where there are no springs it is self evident that the whole load must be raised in proportion with the exact height of every obstacle over which the wheel passes, and must sink abruptly with every depression of the road, and this depression costs as much as the raising, because the wheels must again be raised from the bottom with the entire weight resting upon them. But in a spring carriage it is vastly different, for while the latter moves along rapidly, or otherwise, the parts only beneath the springs are moved in correspondence with the irregularities, while all above by the inertia of the matter have a soft and steady advance.

Again, springs of carriages convert all precession into mere increase of pressure; that is to say, the collusion of two hard bodies is changed

by the interposition of one that is elastic, into a mere ascension of weight. It therefore becomes evident that under certain modifications, springs may be applied with great advantage to the heaviness of wagons.

In surmounting obstacles a carriage with its load being lifted over, the springs allow the wheels to raise, while the weight suspended on them is scarcely moved from their horizontal level, and hence it is, that the spring wagon must follow the horse with less resistance to draft.

For Saladee's Magazine.

ANOTHER RULE FOR SETTING AXLES.

MR. EDITOR: Dear Sir—Your Monthly Magazine for January and February are both received, and would by these presents express my highest approbation of the same, and am satisfied it will meet with the same feeling by every one, let him belong to whatever branch of the craft he may.

I find in the January No. a rule by Mr. Moreland, of Mich., for setting axles. As this is a subject upon which I presume there is a greater variety of opinion existing than upon any other, in the construction of carriages, and one whose importance above all others is the greatest, as without the strict adherence to some correct rule no carriage wheel can be made to run smoothly upon the journal, or to obviate the evil of heating or grinding the latter. I therefore propose contributing to your Magazine a different rule from the above, which I have no doubt will be received by some of the craft with much satisfaction on account of its simplicity. I once contributed the same rule to the *Scientific American* (when there was no Coach-maker's Journal.) First—I take the ordinary iron axles, and weld them together; when done, leaving them 4 ft. 6 in. between shoulders, then taking off the collars I heat the axle immediately back of the shoulder, and throw the point of the spindle down until a straight edge will lay level on the bottom, or in other words, until both the spindles form a horizontal line on the bottom. I next ascertain the difference of size existing between the point and butt of the axle arm or spindle. In all common iron axles we most generally find it to be $\frac{1}{8}$ of an inch. I then set the spindles forward at the point so as to have $\frac{1}{16}$ of the taper in front and $\frac{1}{16}$ on the back. Allowing the wheels to have $\frac{3}{4}$ in. dish, this rule will track the carriage 5 ft. 1 in. on the ground, and will gather the wheels forward sufficient to prevent them playing or wearing against the nut. When the wheel is dished more than $\frac{3}{4}$ in., the axle should not receive quite so much sett. Like every other rule the workman is of course required (to a reasonable extent) to exercise judgment, and he will find it an easy method of setting his axles. I have practiced it for a number of years, and can heartily recommend it, from the fact that it has never failed to render satisfaction in a single instance, and I have never known a spindle to cut or heat when thus applied.

Jan. 29, 1855.

J. R. G.

APPROBATION OF THE CRAFT.

It is certainly a source of unbounded pleasure to the editor of any journal or periodical to know that the course in which he is directing his enterprise is appreciated and universally approved of by that class of the great public for whom he is laboring. Nothing can inspire him

with feelings of encouragements so bright and cheering as to receive from the hands of his patrons testimonials of their entire approval and pleasing admiration of his productions. It is our pleasure at the present writing to state that we have received these testimonials from all parts of the Union, from Maine to Georgia, from the Atlantic to the far west, which proves to us the universal appreciation and approval of the Coach-maker's Monthly Magazine, some of which we have given below:

For the Coach Makers' Monthly Magazine.

PORTLAND, Me., Jan. 23, 1854.

MR. SALLADEE: Respected Sir—Your January No. of the Magazine has been received, and I am happy to inform you that it more than meets my highest expectations. As it is generally the case with publishers when getting up a prospectus for the purpose of soliciting subscribers for any new publication, to promise more than is strictly fulfilled, therefore I made some deduction in the promises found in your prospectus, believing that the Magazine would also fall short of appearing as proposed, consequently you may judge of my agreeable disappointment in finding upon the receipt of the first No. that it has come forth in a much better style and abounds with more interest than you had promised to give to us, and not only so but in this No. you promise to enlarge and improve the Feb. No. should it receive the patronage you anticipated. It is not for me to know the extent of your expectations in this respect, but I feel justified in saying that every coach-maker throughout the wide world, (who is susceptible of appreciating a truly scientific enterprise, and one which is destined to point him to a more perfect knowledge of the arts and sciences of the craft) when once he has the pleasure of seeing your Magazine, he is sure to extend to you his aid in its support, for surely three dollars was never better laid out by any of the craft than in paying it for one year's subscription to the *Coach-Makers' Magazine*, therefore I enclose you the amount.

Yours in friendship,

G. S. M'ROSE.

For Saladee's Magazine.

AUGUSTA, Ga., Jan. 14, 1855.

MR. EDITOR:—Through the politeness of your worthy friend Mr. Dawson of this city, I have been presented with a specimen No. of your Coach-Makers' Magazine, and the highly approved manner in which it is received by the craft here, is such that but few publications of any kind meet with. The writer is a native of Germany, has worked in Paris and London, also in New York, and as he sojourned from city to city, among the different nations, he has everywhere inquired with the hope of finding some such publication like the one you now have the honor of presenting to the world. But my search was never gratified till now. It is true in Paris is an establishment which issues monthly plates, (and the plates only) but their being mostly imaginary sketches, (and even then rarely by coach-makers,) they are found of little value, and to the American coach-makers of no possible utility. In England I found three works; one a volume by W. B. Adams, on pleasure carriages (which you seem to possess) also another by Mr. Fuller, and still another by J. M. Aston. But the object of those volumes were more for the immediate benefit of the authors, than the coach-makers, from the fact that they were inventors of different improvements in carriages, and therefore the main objects in view in their

publication was for the purpose of bringing said inventions before the coach making public throughout Europe. And consequently can be considered nothing more than a mere advertisement for the authors. In my own native country many years ago a work of a similar character was published, but like the former, being confined to one object only, it was of no, or at best, very little importance. When I arrived in New York six years ago, I thought certainly I should there find a publication perfectly suited to the craft, but alas! none was to be found of any description. To me it ever was a surprising circumstance that an enterprise so much needed was not put on foot sooner, and I finally concluded that the world was not blessed with the man who possessed energy enough to engage in a work so truly needful. Many of us have asked the question, why have we not a publication of this character? Certainly the field is more than large enough to support it. Then why does not some enterprising man in our fraternity take hold and put the enterprise on foot? Why the fact is a timid fear of proper support, and the few perhaps who would have been willing to have enlisted in such an enterprise, had not the ability of capital and literary talent to justify the undertaking, hence the long delay. But better late than never is the true motto, and I am happy to know that a son of young America is the first in the world to present to his brother craftsmen the work they so much needed, viz: a monthly Magazine, to be devoted to the arts and sciences of coach making in all its various branches, and one through which each member who feels disposed, can express his thoughts and experience to the advantage of each other. If my encouragement is worth anything, I would say go on in the able manner in which you have placed yourself before the public, resting assured of an abundant harvest as the fruits of your labor.

Enclosed I send you \$3.00 for three numbers, which you will send to the following names:

JOHN C. CROFER, S. M. HOOPER, JACOB DEENE.

Yours in the Craft,
J. C. CROFER.

For Saladee's Magazine.

CHESTER, S. C., Jan. 17th, 1855.

DEAR SIR:—Enclosed you will find \$3.00 for one year's subscription to the Coach-Makers' Magazine, the first No. of which has just come to hand, and permit me to say it is just the thing we southern carriage makers want, and furthermore that in the change of your publications from a yearly issue to that of a Monthly Magazine, you have hit the nail directly on the head. Fig. 1 on Plate 1 is a beautiful design, and we have a buggy nearly completed therefrom, and we call it the *Saladee Buggy* (after the name of the designer.) Being something of a draftsman myself, I shall take pleasure in a short time to contribute something to the Magazine which I think will meet the approbation of some of your readers. After a little while I shall send you a club of subscribers from my establishment.

It is needless to wish you success, as no mechanic whom destiny has compelled to work at coach making would by any means be without your Magazine.

Yours, &c.,
CHARLES HOLST.

For Saladee's Magazine.

ST. LOUIS, Mo., Jan. 24th, 1855.

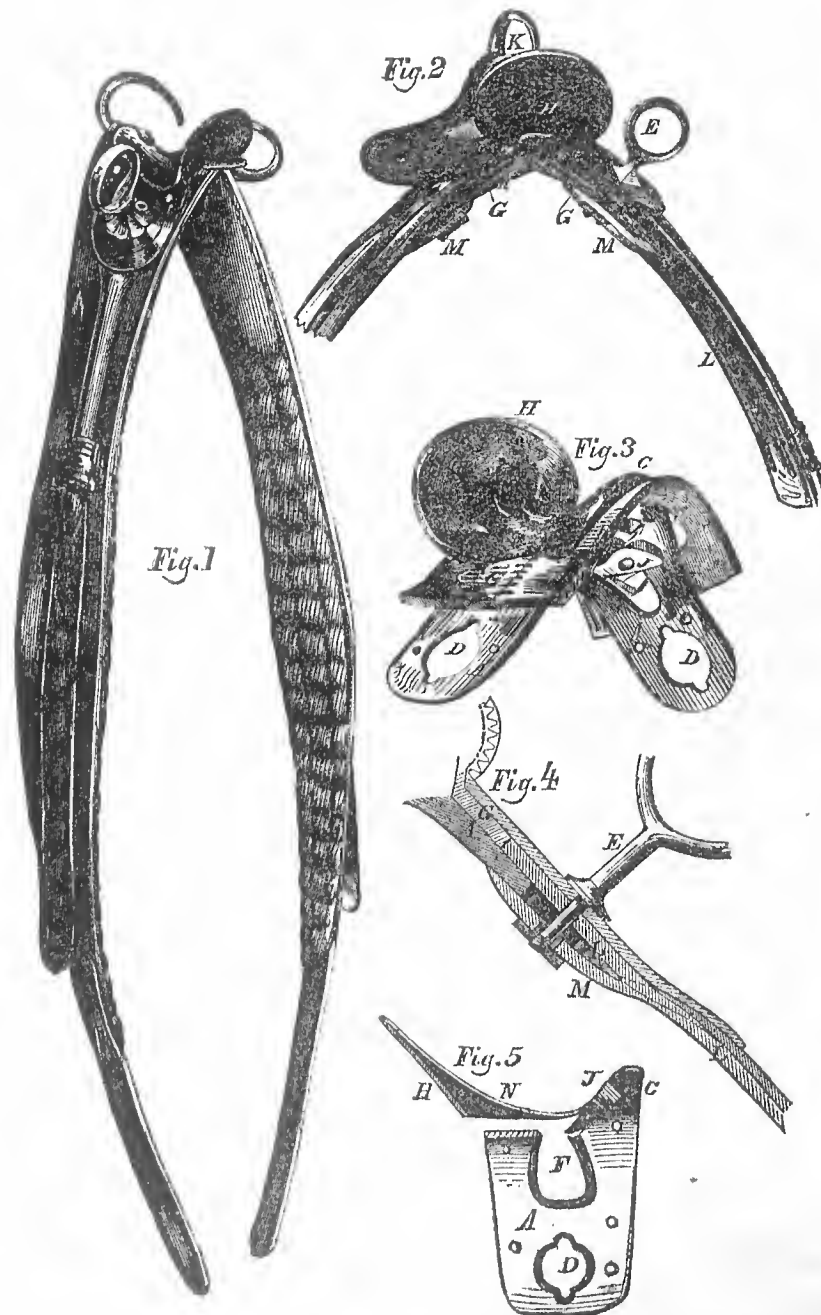
MR. SALADEE:—Your Coach-Makers' Magazine is received, and you will not consider us vain or flattering when we express our feelings of

approbation by saying, that we are proud of having such a Magazine among us, and we predict that unbounded success is awaiting its worthy editor and proprietor (in foreign countries) as well as in our own. It is certainly a work no carriage maker will be without when the opportunity is presented him to become a subscriber, and as it will contain all the various rules for making and constructing all the different parts of carriages, we think it the duty of every proprietor who has apprentices under him to see that they are in possession of this work, and though he should be at the expense himself of furnishing them, it will prove as much to his advantage as that of the boys, for thus he places into his hands a work with which he will be delighted, and to the study of which he will most gladly de-

vote his leisure hours, and thus he will store his mind with all useful knowledge pertaining to his occupation, and by it doubly repay his master for the money so wisely expended. The writer is a body maker and his brother a carriage smith, and it is our intention to open a shop in one of two towns in Iowa, of which we will hereafter advise you, for the present direct the two copies (for which enclosed you will find \$6.00) to this city. At this date business in our line was never so dull, or in other words so literally dead in this city. In conclusion allow us to remark, that so long as we are able to raise the amount of subscription for the Coach-Makers' Magazine, and you remain its editor, so long will we remain its patrons.

Truly yours,
CYRUS N. HARDEN & BRO.

IMPROVEMENTS IN CARRIAGE HARNESS.



Through the politeness of Mr. Robert Selleck, Carriage Harness and Saddle manufacturer, 253, Pearl st., N. Y., we are enabled to present our readers with the above engravings, which represent an improvement in harness and saddle trees, for which a patent was granted to the said gentle-

man on the 7th of Nov., 1854. The space in this No. does not allow us to give as full an explanation of Mr. Selleck's improvement as the nature of the case really demands we should. However, since he can furnish circulars to all those who are desirous of acquiring a correct

knowledge of the advantages embraced in the use of these improved *iron trees*, such can be accommodated by dropping a line to his address, when they will receive a full and competent explanation of the same.

Coach-makers' and dealers coming to New York with the view of purchasing harness, will find at the ware rooms of this gentleman every variety of the latest styles and improvements in carriage harness, and on the most reasonable terms.

MISCELLANEOUS.

THE FIRST TRAMP OF YANKEE DAVE.

COMPOSED AND ARRANGED FOR SALADIN'S MAGAZINE.

"Yes, David, as you have now finished your trade, and are about to go out into the gay and fashionable world, where you will have all kinds of people to deal with, and different masters to work for, you must be careful, very careful, how you conduct yourself. Be kind and polite to everybody, rich or poor. And when you get in a big city like Bosting, and feel like kicking for a job, don't blunder right into a shop where the workers are at it, as you would here in our little country towns, for that is downright against the rules in big cities, and they would put a feller down for a real No-nuthen, and as unbecom-in' for a fashionable young man of a city. Therefore when you go into a big town like Bosting, you should first inquire the way to some fashionable coffee-house, and there you can ax for direction to the offices of some o' the big shops,—mind, all the big shops have offices where they keep the books and the time of the workers, &c.; that's the place you must go to see the boss, and this is the 'un you must ax for a job. When you ax him he will look at you and ax you what you 'kin do. Then you musn't look down at the floor as if you was ashamed to tell the old boss you 'kin do any thing in the business from a wheel-barrough to a coach, but look him rite in the eye as brave as a young Jackson, and tell him so without flinchin', and if he wants any body I'll be bound you get a job, and then when you commence squintin' around the work-shops don't be lookin' into every thing and put your hands on every thing wat looks purty, and act as though you never seed a nice carriage. No, no; you must act smart and be smart, or you will never get along in them 'are big towns. Now, I've travelled a few myself, and I know all the hooks and twists in 'em 'are big shops as well as if I was there now, and I can tell you a feller must be rite down sharp to get thrue 'em; but if you think you can do as I tell ye, you'll come out all right, I'll be bound."

David Robinson had just (as he and father thought,) finished his trade, and arrived at the standard of perfection in the knowledge of the arts and sciences of coach-making, and having repeatedly expressed his desire of taking a jaunt off into the world, and have the honor of working in some of the extensive establishments located in such cities as Boston, New York, and Philadelphia, the doating father finally persuaded himself to believe that it was his duty to indulge the hopeful David in this brave desire, thinking it a source through which he would become acquainted with the manners and customs of city life, and the world in general, and if possible add something more to his already extensive store of knowledge in the highly respectable occupation he now professed. We find the father on the evening previous to the departure of our

hero, giving him the foregoing advice and directions, in regard to his future course.

Next morning bright and early with a respectable sum in his pocket, we behold our hopeful mechanic bound for Boston on board the fine steamer which would land him in Portland in time for dinner, and from thence to Boston by railroad; dreading not of sorrow or disappointments, but on the contrary was wrapt up in the happy contemplation of the glorious times before him, and the surprising manner in which he expected to astonish the natives in the great cities. Ere he thought one half the distance was accomplished, he is aroused from his idle dream by the sound of the bell, to the reality of his arrival in Portland. We next see him standing upon the landing with one hand rammed into his pocket, and the other clenching the end of the stick on his shoulder, to which is slung his carpet bag, looking around him right and left, with that comical cunning so peculiar to the down easter. Not having forgotten the able advice of his father, to stop at a fashionable coffee-house, to be polite, &c., he salutes the next person he meets with

"I say general, where is 'yer fashionable coffee-house here?"

The gentleman pointing towards the head of the wharf, informed him that the Eagle Coffee-House was right there, and that it was quite a fashionable resort.

Immediately this side of the coffee-house, on the same side of the street, is the Custom House, the front of which is surmounted by a large, gilt spread eagle. Upon seeing the eagle our hero was satisfied this was the Eagle Coffee-House pointed out from the landing. Into this our traveler walked with a majestic air, which few of the dandies in the fashionable circle could surpass, and having found his way into the first room, which chanced to be the Surveyor's department, and not having forgot another important advice of his sire, i. e., to make himself perfectly at home when among strangers, he threw his baggage into the corner, seized an arm chair and drew himself up to the fire. Bracing his feet against the grate, he pulled out his china pipe, which he had bought for the occasion, and having very leisurely filled it with pig-tail, (using his own phraseology) he cocked his head over his shoulder and commenced puffing away in right good earnest.

The Surveyor gazed at the queer genius a moment, but concluded to wait for the finale of the scene, without introducing unprofitable questions. Having finished his pipe he lazily turned to the official with—

"How long to dinner?"

"We dine at 2," continued the Surveyor, now discovering the stranger's error, and disposed for the present to humor it.

"What's the old man?" (meaning the landlord.)

"The Collector is in the back room, sir," said the agreeable surveyor; upon which the down-easter moved himself into the Collector's department, tottering his carpet-bag along as he went. Having laid down his traps, he stepped up to the counter where stood a pitcher and a tumbler for the use of the room. The cashier looked at him an instant with utter astonishment, when the Yankee broke the silence with—

"Brandy and water."

"What! sir?" exclaimed the astonished accountant.

"A little brandy and water, if you please."

Leaving the bar-keeper (as he supposed him) to fix his toddy, he moved a little forward and suddenly discovered the Collector of the Port, (who is a middle aged man and very fleshy) sound asleep in his easy chair. Stepping up to his

side, he hit him one of his familiar blows with the open palm upon the back and shouted out at the top of his voice:

"Hillo! old boss, how are yer?"

Had a stroke of lightning came in contact with the shoulders of the naturally modest and quiet Collector, he could not have been more seriously startled than he was at this unexpected assault, and half springing, half tumbling, he sprang to his feet, gazing thunderstruck upon the unwelcome visitor now before him.

"I say, old boss, how'd 'ye do?"

"Sir!" exclaimed the Collector.

"Glad to see yer,—two toddies, bar-keeper; brandy and water for me. Wat der yer drink, squire?"

"Sir!" said the Collector, again imagining himself the victim of some horrid dream. "Come, come, old feller, wake up!" added his tormentor, again bringing down his huge mauler between the Collector's shoulders, and well nigh knocking the breath out of him.

"There is some mistake here," said the Collector, springing back.

"Not a bit 'uv it, old rusty, I know ye jes like a inkstand."

"I don't remember, really—"

"Yes, yer, deu, sart'n; but never mind; wat yer goin' to drink?"

"Do you know where you are, sir," inquired the Collector, somewhat out of patience, and supposing our hopeful David to be some lunatic whom he had better get rid of as easy as possible.

"Me!" sart'n, why, in Portland—Eagle Coffee House. You'r old Brass the landlord. I know y-e-o-u; 'o git a-o-u-t—we're bound to hev a drink;" and he drove his thumb and fore finger into the Collector's ribs, meaning by that to change the conversation to something to drink.

"Excuse me, sir, but—"

"No-sir-ee, no baekin' out, old squibble; I've seen you go it a'fore, you know; come, bar-keeper, tote out the liquor, all mum chum, you know; I un'stan it's agin' the law to sell brandy in Portland—but we know, pass it up, bar-keeper."

"You have mistaken your quarters, sir, this is the Custom House."

"The wot! —the custom house—cuss 'em," continued the discomfited jour, endeavoring to get the thing through his head—"not the coffee-house, then?"

"No, sir."

"Why, I seed the eagle over the top, and now yer say it ain't the Eagle Coffee-House."

"No, sir."

"W-a-l, I never!" said the chop-fallen traveler, gathering up his duds and looking about him as if to be fully satisfied of his mistake, he concluded with—"What is the expense?"

On being assured there was nothing to pay, and being directed to the proper place he replied:

"Wal, old feller, a mistake ain't a hay-stack, now how."

"Certainly, not," returned the Collector.

"Wal, I would'nt ha' thought I could ha' made such a mistake,"—and then insisting that the hull crowd would go out and take a gin'ral drink, which was declined, he directed his steps to the coffee-house a second time pointed out to him, where a fine lunch was obtained; his courage by no means failing him by the trifling circumstance which had just occurred in the custom-house, we find him in the 4 o'clock train, with a look of determination stamped upon his face as much as if to say, "yeou kan't come it agin', bound for the great city of Boston."

V. W.

[TO BE CONTINUED.]

NEVER GIVE UP.

TO J. E. M. S.

Never give up! it is wiser and better
Always to hope than once to despair;
Fling off the load of doubt's cankering fetters,
And break the dark spell of tyrannical care.

Never give up! or the burden may sink you,
Providence kindly has mingled the cup,
And in all trials and troubles, betidek you,
The watchword of life must be, Never give up!

Never give up! though the gaups shot may rattle,
Or the mill thunder cloud over you burst;
Stand like a rock and the storm or the battle
Little can harm you, though doing their worst.

Never give up! though adversity press—
Providence still may sweeten your cup;
And the best counsel in all your distresses,
Is the stout watchword, Never give up!

"Never give up, there are chances and changes,
Helping the hopeful a hundred to one;
And through the chaos, high wisdom arranges
Ever success, if you'll only hope on."

"Never give up, for the wisest is boldest,
Knowing that Providence guides the cup,
And of man's the best or the oldest,
Is the true watchword of, Never give up."

MODERN APPRENTICESHIP SYSTEM.—That the tendency to disorder and rioting is on the increase in all our great cities, is a fact that no one denies. But in seeking to explain its causes there arises a wide diversity of opinion. Some attribute it to the voluntary system of the freemen; others to the increase of intemperance; and others to still other causes. But none of these seem to us to reach the root of the evil. There was a time when the voluntary system, for example, was orderly. There was a time when taverns were relatively as common as now, and when drunkenness was the vice of the age, yet there was comparatively little rowdyism. The increase of grog-shops does not, therefore, necessarily produce rioting. One is the inevitable consequence of the other. So it is also in regard to the voluntary system. If we looked into other alleged causes, to which the increasing lawlessness of the age is popularly attributed, we should find, likewise, that we were still foreign from the root of the evil. Intemperance doubtless increases rowdyism, and the voluntary system affords more or less facilities for it, but the prime cause lies in the undisciplined characters of a certain class of our young men, and this want of discipline has its origin in our modern apprenticeship system.

Formerly, the apprentice was invariably bro't up in the house of the master, and had a vigilant eye kept upon his morals, manners and habits. He was, perhaps, often subjected to mental labors which had nothing properly to do with his craft, and in other particulars, also, advantage was taken of him. But on the other hand, the strict discipline under which he was kept, had the effect of checking the follies and correcting the vices of lawless juvenescence. He was not allowed to keep bad company. He was compelled to be within doors nightly at a seasonable hour. He was made, except in the most despot household, to feel that he had a home. The consequence was, that he grew up with habits of industry, an aversion to the streets, and a taste for domestic evenings. There were exceptions, we know, but such was the general result. But now how changed is all this! In a great degree the old system of apprenticeship is abolished; apprentices board where they choose; there is often no check on their conduct; they spend their evenings and even nights how and where they please; and the result is that they acquire habits of dissipation, rowdyism and vice, which lead to the most deplorable consequences, private and public.

The old adage says, that as the twig is bent the tree is inclined. We cannot expect to have law abiding young men, if boys are permitted to do as they please. The great foundation-stone of society is the family. Without its gentle in-

fluences civilization would perish, vice reign uncontrolled, lawlessness, crime and anarchy ensue. The character of the man is formed at the fireside. When the parental roof is abandoned for the boarding-school, the college, or the master mechanic's shop, the influences of the family are lost to youth, unless supplied by judicious discipline in the new sphere. Under the old apprenticeship system, the protection of the family was still thrown around the lad. But, under the modern one, he is too often cut loose to drift where he will. Masters, to use their own phrase, 'will not be bothered' with their apprentices in their house. The boy is accordingly left to the life of the boarding-house; and the consequence is, that, having no comfortable home in which to spend his evenings, he seeks amusement in the streets. In the end he becomes a frequenter of oyster-saloons, hose-house bunks and grog-shops; and thus comes to form the very material out of which to make a rowdy, a rioter, or alas! even worse.

It is this false system of bringing up a large class of our young men, which has of late years increased intemperance, lawlessness and vice so rapidly. The neglected apprentice is the prey on which taverns live. The taverns again increase the degradation of the victim. Thus each reacting on each society, throughout one of its most important strata, becomes disorganized. We must, therefore, if we would have a thorough reform, go to the root of the evil. We must not only restrain the grog-shops, and perhaps reform the voluntary system, but by returning to the old system of apprenticeship, we must once more give to youths that moral discipline, without which the most promising lad often becomes the worst of men—a virtual savage in the midst of civilized society.

NEVER DESPISE YOUR BUSINESS.—'No man of sense,' it has been observed, 'despises his bread and butter.' It is only the weak who are ashamed of laboring for a livelihood, or who affect to scorn the branch of business which they especially pursue. The first duty which every man owes to himself, to his family, and to his fellow-citizens, is not to become a burden peculiarly to society. That commonwealth, also, is the most flourishing in which the proportion of drones is the fewest; indeed the idea of a perfect State involves the necessity of every member of it being a producer. Hence it is that work is always honorable. The most ordinary handicraft employment is as worthy, if exercised honestly, as the professions of law or medicine. Each citizen should follow that avocation for which he is best suited, and when he does this he fulfills the law of his existence, but never otherwise. A bad lawyer is less truly respectable than a good mechanic, and an able doctor is no more meritorious than an honest laborer. To do one's duty, in the walk where one can be most efficient, is to be honorable; to neglect it, or to seek some other walk, is to become really disgraced. By this standard, and this only, should we judge of man's respectability. It is time that we republicans banished the arbitrary lines of caste, as applied to the pursuits of life, which are derived from feudal Europe.

Yet there are thousands of men who are at heart ashamed of their business. Are they retail vendors? They scorn continuing to make money in their old way, and long to embark in the wholesale line. Are they jobbers? They think if they could only be skippers that their glory would culminate. Are they mechanics?—They regret that they are not lawyers. Are they farmers? They think to be in business in town would be the height of their ambition.—Such

persons in their hearts, worship absurd distinctions, inherited from the social life of England, and regard the physician, the politician, or the banker, as really greater men than common human clay. These are what Thackeray calls 'snobs'; men of pretence and weak folly; men who despise their own bread and butter. The wise man, on the contrary, seeks independence by steadily attending to his business, well aware that an independence, honestly acquired, is his best claim to esteem. It is young men or rather lads, that are oftenest victims to this weakness. Tens of thousands have been shipwrecked in life from having chosen a pursuit unsuitable to them, tempted thereto by the false notions of the vulgarity of a trade, and the superior dignity of commerce or a profession.

THE WHITTLING PROPENSITY.—In passing the new Post Office yesterday morning, we smiled at the exhibition on its door posts of the 'whittling propensity' of the universal Yankee nation. A long splinter had been cut off by the unlucky jack-knife of some Yankee boy; we said Yankee, for men born and brought up in foreign climes have no such propensities.

With the Yankee boy it is different. He cannot see a newly planed board but he must try the sharpness of his jack-knife upon it. He cannot see a smooth painted white wall, but that he is in agony until he can deface it with his pencil, or carve his name on it with his knife. This is no exaggeration. It is a universal fault felt and acknowledged throughout New England, or wherever the stream of Yankee enterprise or energy has flowed. You see it wherever a new building has been erected, a new fence put up, or a new bench or a desk or breast work made. If he drives a bargain, the Yankee must whittle while it is in progress; if he sits for social converse in the open air, he is not easy unless his jack-knife is in operation. Every desk of his school room bears witness to this propensity.—Every public building shows its uncontrolled existence. Even the house of God is not free from the desecration of the Yankee boy's whittling genius, and its pews and seats bear testimony of its exercise. It is said of some men, that they were born with a silver spoon in their mouths, and others with a wooden one, but the Yankee had no spoon at all—he was born with a jack-knife in his mouth.

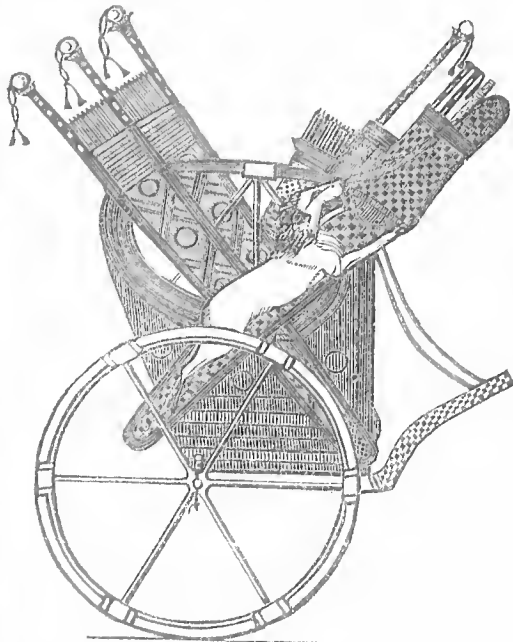
The girls manifest the same proclivity of character. They scribble on the white walls which they cannot cut, lest they should cut their delicate fingers. Look at a bevy of Yankee girls in a cemetery which taste and art have ornamented. What a propensity do they exhibit of pulling up flowers; breaking the affectionate testimonials of respect planted by the sorrowful living, on the graves of the dead; and carrying off whole loads of branches of evergreens, for no other purpose but to gratify their propensity for destruction; which is a characteristic of the race.

It is otherwise in other countries. The public yards in cities are not obliged to be watched to prevent such depredations, the flowers that grow up and bloom on the graves of departed friends are considered sacred and are passed untouched. Who ever heard in Europe of sanding the desks of rooms devoted to College Lectures with pounded glass, so as to prevent the knives of the students from defacing them? Yet it has been done frequently in America. Who ever saw the names of silly boys and girls written on the clustering stone pillars of the Gothic fanes abroad? Yet the Christian churches of New England are filled with such abominable specimens of Yankee folly.—*Hartford Courant.*

EARLY HISTORY OF WHEEL CARRIAGES.

CONTINUED.

The quivers and spear cases were suspended in a contrary direction, pointing backwards. Sometimes an additional quiver was attached close to the bow-case with a mace and other arms; and every war chariot containing two men was furnished with the same number of bows. The following is a cut of a war chariot with the furnishings above described.



The processes of making the pole, wheels, and other parts of the chariot, are frequently represented, and even the mode of bending the wood for the purpose. In the ornamental trappings, hangings, and binding of the frame work and cases, leather was principally used, dyed of various hues, and afterward adorned with metal edges and studs, and the wheels strengthened at the joints of the felloe with bronze or brass bands, and the rims bound with hoops of metal as described by Homer.

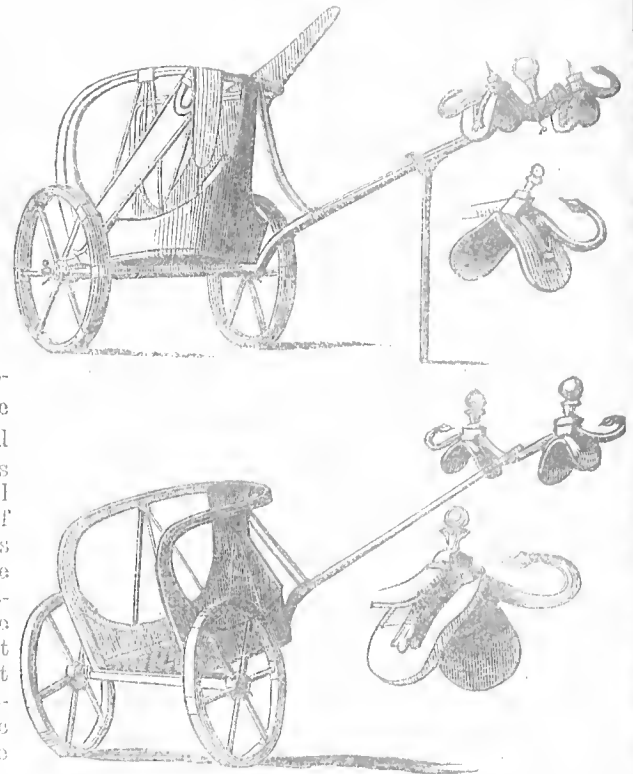
It is not a little remarkable to find that the ancient Egyptians them-

selves had not failed to point out different branches of workmen in the construction of chariots, which was divided into two classes, viz: the carpenter, and the currier. The body and the frame work, poll yoke and wheels were the work of the former, the case for the bows and other arms, the saddle and harness, the binding of the frame work, and the coverings of the body were finished by the currier, and lest it should not be sufficiently evident that part of the materials used in the chariot was leather, the artist has distinctly pointed out the nature of the substances they employed, by figuring an entire skin, and the soles of a pair of shoes or sandals suspended in the shop, and we find a semi-circular knife used for cutting leather precisely similar to our own, even in the remote age of King Amunoph II, who lived fifteen centuries before Christ.

In war chariots the wheels had six spokes generally round, with a greater diameter at the hub than at the felloe. In many curries or private cars employed in towns only four, and the wheels were attached to the axle by a small linch pin, sometimes surmounted with an ornamental head and secured by a thong of leather, which passed through the lower end, precisely on the same principle of those made at the present time. The harness of curries and war chariots was nearly similar, and the pole in either case was supported on a curved yoke, fixed to its extremity by means of a strong pin and bound with straps or thongs of leather, the yoke resting upon a small, well padded saddle, was firmly fitted into a groove of metal, and the saddle placed upon the horse's withers, and furnished with girths and breast band, was surmounted by an ornamental knob, and in front of it a small hook, secured the bearing rein. The other reins passed through a thong or ring at the side of the saddle, and thence over the projecting extremity of the yoke, and the same rein secured the girths, and even appears in some instances to have been attached to them. In the war chariots a large ball, placed upon a shaft projecting above the saddle, which was either intended to give a greater power to the driver, by enabling him to draw the reins over a groove in its centre, or was added solely for an ornamental purpose, like the fancy head dress of the horses, and fixed to the yoke immediately above the centre of the saddle, or rather to the head of the pin which connected the yoke to the pole. The following two engravings show a perspective view of the war chariots with yokes, &c., from a comparison of different sculptures.

The traces were single, one only on the inner side of the pole, and thence extending to the saddle; but no exterior trace was thought necessary, and therefore no provision was made for attaching it to the car. Indeed the yoke was sufficient for all purposes of draft as well as for backing the chariot, and being fixed to the saddle it kept the horses at the same distance and in the same relative

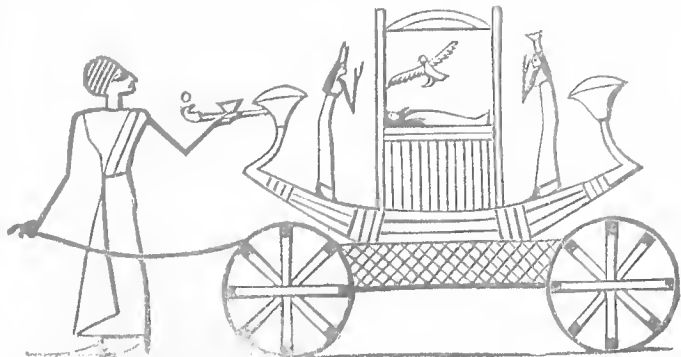
position, and prevented their breaking outward from the line of draft. In order to render this more intelligible, we shall introduce a pair of horses yoked to a chariot according to the rules of Egyptian drawing, derived from a comparison of the numerous representations in the sculptures, omitting only their housings and head dress, which may be readily understood in an Egyptian picture. We have also followed the Egyptian custom of attaching a grey and a chestnut, which was considered quite correct and in harmony with good taste in ancient Egypt.



On grand occasions the Egyptian horses were decked with fancy ornaments; a rich striped or checkered housing, trimmed with a wide border and heavy pendant tassels covered the whole body, and two or more feathers were inserted in lion's heads, or some other device of gold, formed a crest upon the summit of the head stall. But this display was, as we would naturally imagine, confined to the chariots of the monarch, or the military chiefs, and it was thought sufficient in the harness of other cars, and in the town curries, to adorn the bridles with rosettes, which resembled those in use at the present day in England. They had no blinds, but the head and upper part of the neck were frequently enveloped in a rich covering similar to the housing, trimmed with leather fringe, and the bridle consisted of two cheek pieces, a throat latch, head stall, and the fore piece and nose straps.

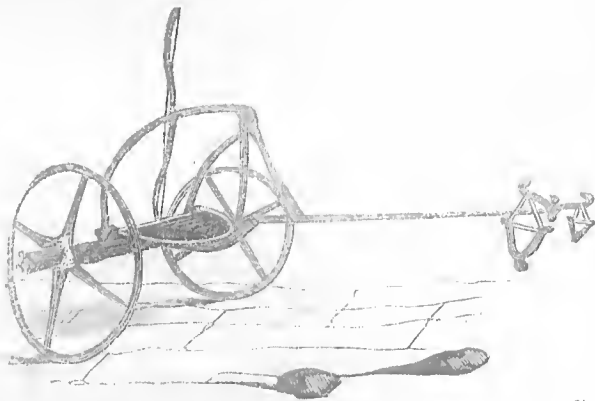
No instance occurs of Egyptian chariots with more than two horses, nor is there any representation of a carriage with shafts drawn by one

horse, but a pair of shafts have been found with a wheel of curious construction, having a wooden tire to the felly, and an inner circle probably of metal, which passed through and connected its six spokes a short distance from the nave. The diameter of the wheel referred to was 3 ft. 1 in., the felly was in six pieces, the end of each overlaying the other, and the wood tire was fastened to it by means of raw hide bands or thongs, passing through long narrow holes, made to receive them. It is not certain whether this wheel belonged to a carriage of two or four wheels, for an instance does occur of an Egyptian four wheeled car (or currie); it is one of singular construction and novel appearance, and was used only for religious purposes, like that mentioned by Herodotus, of which the following is a drawing.



The traveling carriage drawn by two oxen was very like the ordinary chariot, but the sides appear to have been closed. It had also one pair of wheels with six spokes, and the same kind of pole and harness; an umbrella was sometimes fixed over it, when used for women of rank, as over the King's chariot on certain occasions, and the bow-case with the bow in it, shows that a long journey is intended, and one which required arms; the lady within being on her way to pay a visit to the King, she has a very large retinue with her, bearing many presents, and the whole subject calls forcibly to mind the visit of the Queen of Sheba to King Solomon.

The chariots used by contemporary eastern nations, with whom the Egyptians were at war, were not dissimilar in their general form and outline, or in their mode of yoking the horses, as may be seen from that which is brought with its two unyoked horses, as a present to the Egyptian monarch, by the conquered people of Ret-n-u, and one found in Egypt and now in the museum of Florence.



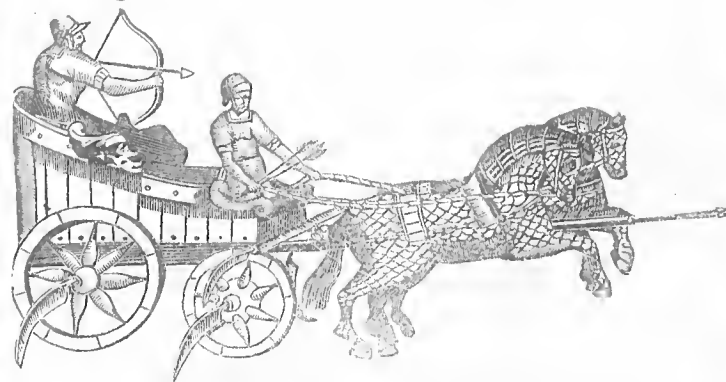
This last is supposed to have been taken in war from the Scythians, but it appears rather to be one of those brought to Egypt with the rest of a tribute, as a token of submission, being too slight for use. In Solomon's time chariots and horses were exported from Egypt, and supplied to Judah, as well as the King of Hittites and of Syria.

CHAPTER II.

But still later we find chariots and wagons are both frequently spoken of in holy writ. The first mention made is found in Genesis, which puts it back to the time of Pharaoh on which occasion Joseph is said to have rode in the second chariot of Pharaoh as a mark of peculiar honor and respect. Here is the time before referred to when chariots for pleasure were rarely made use of, and then only by Kings, Queens, and the nobility of the land, and should at any time an ordinary person, (like in the case of Joseph) be permitted to ride in one of them, it was in the eyes of the public a mark of dignity and high respect. This ancient writer also informs us that wagons were dispatched from the courts of Egypt to convey thither the wives and little ones of the family of Jacob; from this and the fact of the brethren of Joseph bearing their corn away on asses, we infer that wheel vehicles even of the lowest order were not in use among the common people of that time.

But still later in the Israelitish history (1491 years before Christ) we find frequent mention made of chariots. Exodus xiv: 6, we read: And he (the King) made ready his chariots and took his people with him. Again, and he took six hundred chariots and all the chariots of Egypt, and the captains of every one of them. Again, we read of trouble caused in the host of the Egyptians in their pursuit of the Israelites towards the Red Sea, by the wheels being detached from their chariots, so that they drove heavily. This statement gives the reader something of an idea as to the manner in which the wheels and axle of those chariots were connected to each other, for detaching the wheels (says our favorite author, Mr. Adams) would seem to indicate that the wheels were fast on the axle, which turned under the body; the axle being thrown out of the thole pins, the chariot would become a sledge. As already stated, chariots at this period were seldom used for pleasure, but principally for war purposes. All public games and sports tended to this, one of their master passions, and the sound of chariots and horsemen were seldom heard save as heralds to the sound of battle.

It appears the most common chariots at this time in use were those intended for two persons, who were probably the warrior and the charioteer, and we read of several men of note engaged in driving these chariots. We are informed that when warriors thus fitted out came to encounter in close fight, they alighted out of their chariots and fought on foot, but when they became weary, (which often happened by reason of their armor) they retired into their chariots and from thence tormented their enemies with darts and massive weapons. It also appears that these chariots were constructed in a manner so durable as to last for several generations. Thus we perceive that chariots of this order were not only in existence at this period, but that they were used in great numbers as the machinery of death and destruction in time of war, and it seems furthermore very conclusive that the original design of wheeled chariots were for this destructive purpose. We are also told in the Bible that chariots of iron were used by some of the Canaanites in ancient times, and Homer mentions them also in such terms, that it is presumed war cars of two wheels with sharp projecting irons and four horses abreast were in use by several nations long before the days of Cyrus. Xenophon informs us (Cyrus' expedition book,) that Cyrus introduced improvements in the war chariots, of which the following is a cut.



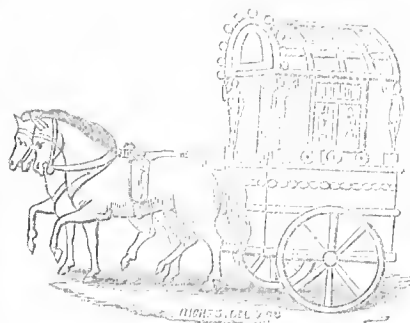
He put only two horses abreast, and but two men, the warrior and the charioteer. He also added sharp cutting blades at the ends of the axles, which he strengthened afterwards. Two long spikes were inserted in the end of the pole, and several more were fastened behind in order to prevent an attack from the rear. Our engraving represents one with four wheels which were less adapted to rough regions and with higher sides than those of the most antique construction, which were less easy to mount and alight from in time of danger, but more substantial and out of reach of an enemy on the ground. The horses were covered with scale armor, such as was frequently used in different countries in more modern as well as in ancient times. Little adapted as such carriages would be found to the present improved state of military means and war implements, they often proved destructive weapons and caused terror among the opposing ranks, as they greatly assisted in the work of death, being thus armed with scythes and hooks by which they made great devastation in mowing down men wherever they came in contact with them.

Though the better sort of carriages were used for so mischievous a purpose, others of an inferior kind and at a later period were introduced among the Jews for agricultural purposes, and were principally used for thrashing out corn and were called carts, (a method still practiced in Arabia.) The word cart is most probably derived from the latin *carretta*, a diminutive of *carrus*, and the ancient *carruca* had undoubtedly a kindred derivation.

Beckman in his history of invention tells us that the earliest Roman vehicle on record was the *arvera* of which mention was made in the twelve tables. It was a covered carriage, used by sick and infirm persons. It appears to have been employed earlier than the more luxurious *lectica*

utter) and by it brought into disuse. Isaiah when prophesying the future glory of Jerusalem describes the faithful as coming upon horses and in chariots, in litters and upon mules. A later invention, continues Beckman, was the *carpentum*.

CARPENTUM.



A covered two wheeled vehicle drawn by two horses or mules, and capable of containing from two to four persons, the form of which may be seen on antique coins where it is represented as in the above cut. Its chief use was to convey the Roman ladies in festal processions, and by private persons of high standing on journeys. *Carpenta* or covered carts were extensively in use by the Brit-

ons and northern nations. Our engraving is copied from a medal of Agrippina, and exhibits a *carpentum* of the most enriched form.

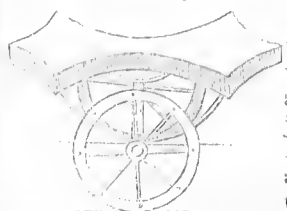
Still later we find the introduction of the *carruce* which was first mentioned by the ancient historian Pliny. But so little is known of them that antiquaries are undecided whether they had one wheel like our ordinary wheel-barrows, or (as is more probable,) four wheels. This much is however stated concerning them, that they were richly decorated, often with solid silver, curiously engraved and ornamented, and that Senators and people of condition were carried in them. The Theodosian code allowed them to civil and military officers as a mark of dignity, and it was considered by such an honor to ride in those which were remarkably high.

We perceive there is a distinguishing difference between the construction of the ancient and modern carriages in one respect, as the greater portion of the former must have been made principally for the display of the muscular strength and agility in their management, rather than for the purpose of bodily ease and relaxation, hence might have risen the long retained prejudice against carriages of all kinds, as tending too much to luxury and effeminacy.

In Kennett's Roman Antiquities are engravings of several cars as they appeared when in procession to grace one of the triumphs allowed only to Dictators, Consuls, or Praetors. The first car contained the spoils and treasure, the second a group of Roman Nobles and the third the hero of the day. The Romans like the Greeks had their chariot races, though the far famed olympic games carried away the prize of pre-eminence, so that the heroes of Rome were fain to enter the lists. Suetonius Chronicles, the Emperor Nero is represented as engaging in the olympic games, and riding in a *decempugis*, or chariot drawn by ten horses abreast. The renown attached to a winning chariot was as great (if not more so) as that now gained by a winning horse. In modern times, however, something more is contested than the reward of bare fame, and a wreath of *parley*. It was remarked of Alcibiades as a thing of extraordinary extravagance that he first sent three chariots at one time to the olympic games. The skill in the use of these chariots must have been displayed in turning them without breaking the wheels or axles, of which there must have been some danger, as their courses were longitudinal instead of circular. Specimens of the use of those chariots can now be seen at the Hippodrome in New York City.

The earliest representations of the chariots of Greece will be found in the bas reliefs among those beautiful exiles from their native land, the Elgin marbles. They were the product of the time when Pericles held sway over others nearly five hundred years before Christ, and the records left upon the stone tablets adorning the walls of the temples erected by him, are the oldest handed down to us in this nation. The vehicle here inserted is taken from an engraving of some specimens of the remaining ruins of Persepolis, destroyed by Alexander the Great, three hundred and thirty years before Christ. It is from one of a number of representations of different deities, typical of the seasons. This small wheel carriage served as a sort of moving platform for one of their idols, who was seated upon it in oriental style. The mode of attaching the axle to the carriage differs from that of the Greek and Roman cars of a contemporaneous period, or indeed from any other we have seen in antique sculpture or elsewhere.

CAR FROM THE RUINS OF PERSEPOLIS.



There is another, a curiosity in its way, and although of Roman origin, it differs from the usual form of cars at that time. It is from an antique gem in cornelian, which forms the subject of one of the many erudite papers in the *Archeologia*. It is like a Greek car reversed, and is a kind of primitive model of the whole tribe of one horse vehicles now in use. It is

drawn by horses and driven by a Cupid. But the details of traces, harness, &c., is omitted, as is usually to be observed in representations of antique charioteering. The gem is inscribed *maro maris*, and has reference in all probability (as the historian supposes,) to some passage in the life of Caius Marius whose fortunes were influenced very materially by Martha, a renowned Syrian prophetess. Marius was born one hundred and fifty years before Christ.

In Dillaway's Roman Antiquities, we find various representations of chariots, the insertion of which in this place will prove interesting to the reader, and the first we will represent is the chariot in which Juno and Minerva are going to assist the Greeks, as mentioned by Homer, accompanied with the remarks found connected therewith.



JUNO AND MINERVA GOING TO ASSIST THE GREEKS.

Juno, daughter of Saturn and Rhea was a sister and wife of Jupiter, though poets agree that she came into the world at the same birth with her husband, yet they differ as to the place. Some fix her nativity at Argos, others at Samos, near the River Imberasus. As Queen of Heaven, Juno was conspicuous for her State. Her usual attendants were Terror and Baldness. She is generally pictured like a matron, with a grave and majestic air. Sometimes with sceptre in her hand and a veil on her head. She is also represented with a spear in her hand, and again with a patera, as if she were about to sacrifice. On some medals she has a peacock at her feet, and sometimes holds the palladium. Homer represents her in a chariot, adorned with gems, having wheels of ebony, nails of silver, and horses with reins of gold, though more commonly her chariot is drawn by peacocks, her favorite birds.



THE CHARIOT ACHILLES, AND HECTOR TRAILS BEHIND.

Achilles was prevailed on to go to Troy after Thetis, and furnish him with impenetrable armor, made by Vulcan. Thither he led the troops of Thessaly, in fifty ships, and distinguished himself by a number of heroic actions. But being disgusted with Agamemnon for the loss of Briseis, he returned from the camp and resolved to have nothing more to do with the war. In this resolution he continued invincible till news was brought him that Hector had killed his friend Patroclus. To avenge his death he not only slew Hector, but we are told fastened his corpse to his chariot and dragged it around the walls of Troy, offered many indignations to it and at last sold it to Priam his father.

FROM THE RUINS OF PERSEPOLIS.

Saladee's Magazine---Plate No. 7.

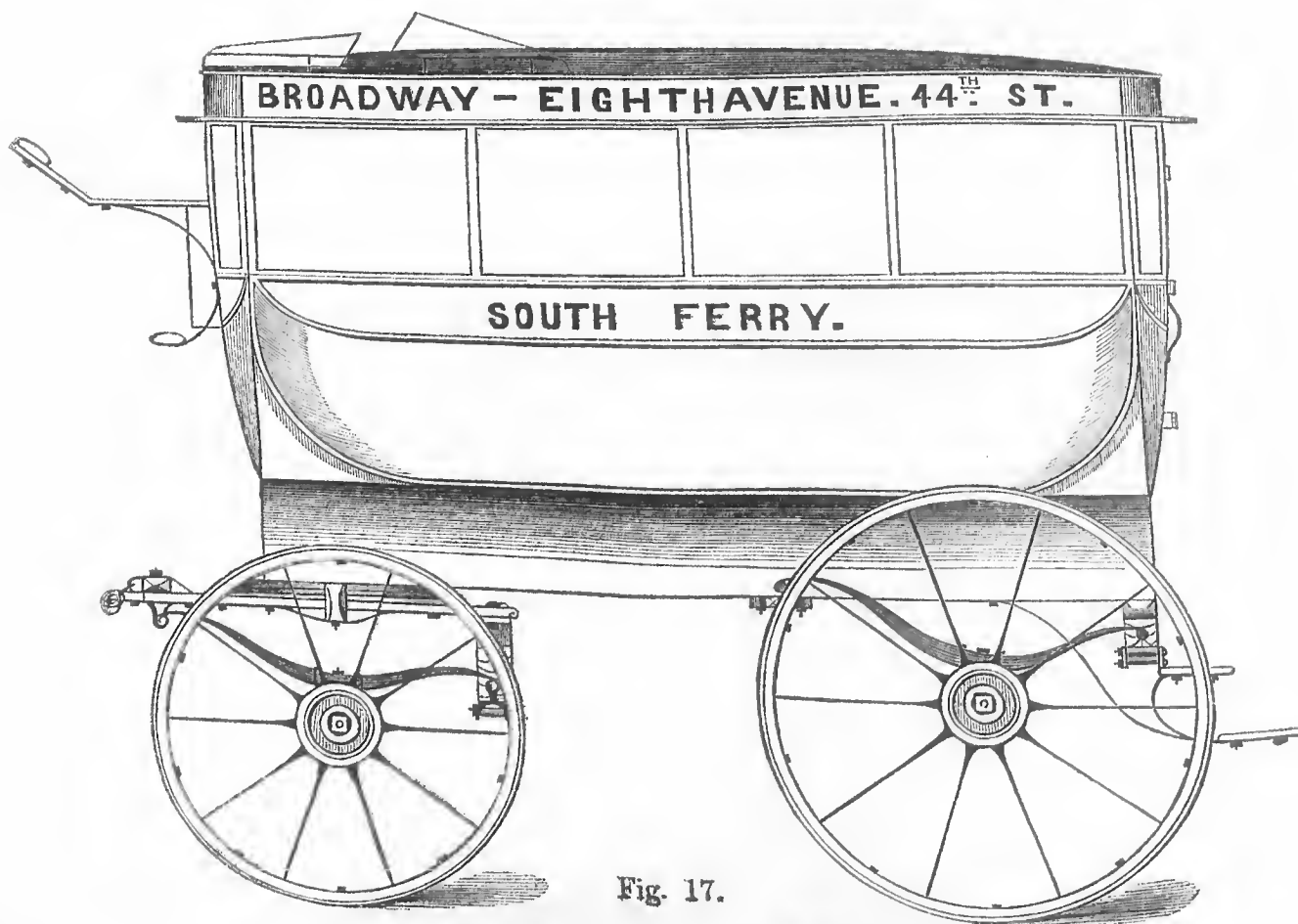


Fig. 17.

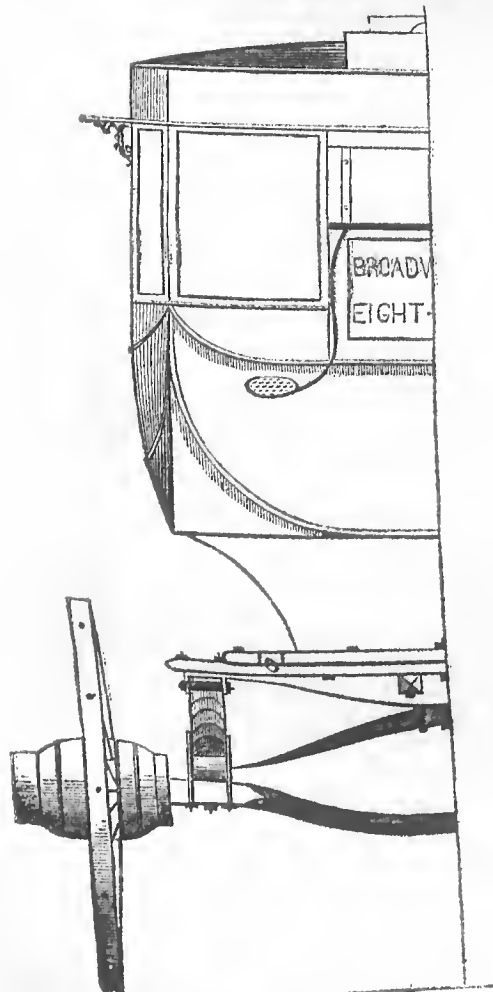


Fig. 18.

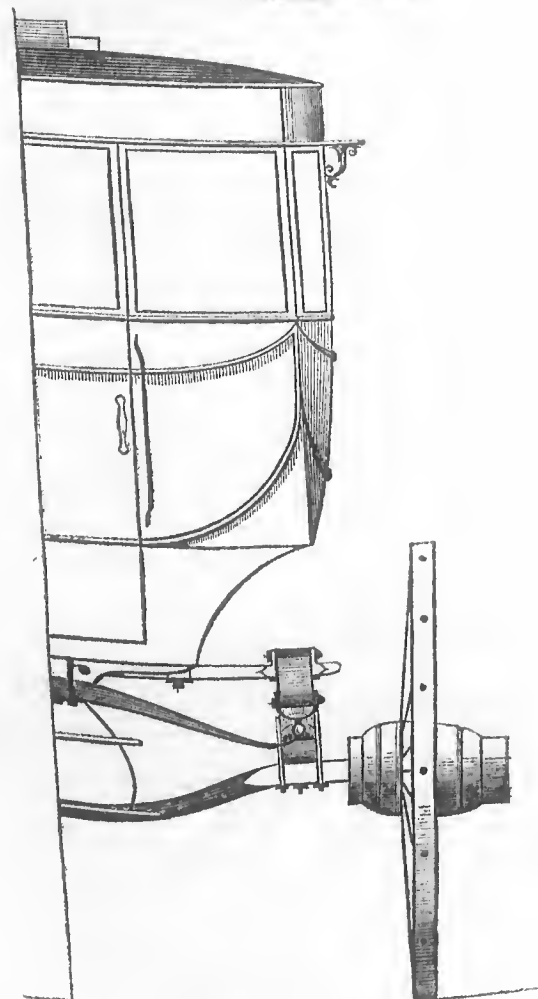


Fig. 19.



Fig. 20.—Sliding Seat Buggy.

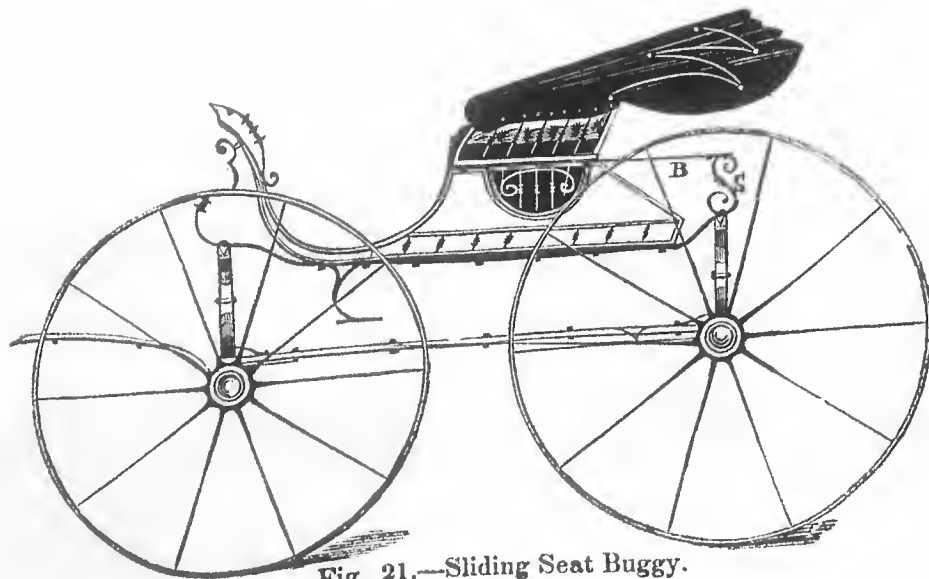


Fig. 21.—Sliding Seat Buggy.

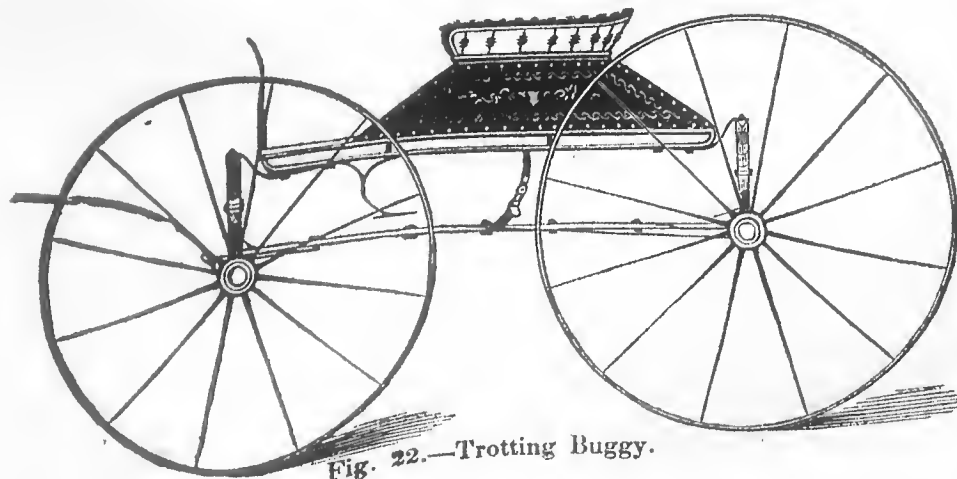


Fig. 22.—Trotting Buggy.

C. W. SALADEE,

EDITOR and PROPRIETOR.

THE COACH-MAKERS' MAGAZINE.



VOLUME I.]

NEW YORK, APRIL, 1855.

[NUMBER 4.

TERMS:

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EXPLANATIONS OF THE DRAFTS.

Figs 17, 18 & 19.

City Stage or Omnibus.—In this No. we have the pleasure of gratifying the earnest request of many of our subscribers with the beautiful illustration of the city stage or omnibus, as represented by Fig's 17, 18 and 19. The draft is sketched from one of the great multitude of this class of vehicles, which crowd the busy streets of New York City for the accommodation of its numerous inhabitants, and the inscription on the side elevation shows to which of the many different lines of stages it belongs.

Being drawn to a correct scale, ($\frac{1}{2}$ inch to the foot) accompanied with a front and back view, renders a written description of its proportions and manner of construction entirely useless; hence we pass on to remark that the street travel of the great metropolis of England and America is one of the most remarkable commercial features of the age. Berkman, the English historian, appropriately remarks that it would be difficult, if not utterly impossible, to estimate the value of time (and consequently money) saved by the use of this giant vehicle of luxury and convenience.

It is only about thirty or thirty-five years ago that one stage coach, and one only, ran from Paddington to the Bank. All the villages round

London had in like manner their small array of slow coaches. In 1829 Mr. Shillibeer introduced the omnibus, a Parisian invention, in London, under an amount of opposition which nearly ruined the projector, while he was benefitting the public. His first omnibus ran from Charing Cross to Greenwich, and was drawn by three horses abreast; but the number two was soon adopted, and the stage-coach proprietors, unable to beat the omnibusses off the road, adopted them, and the system became firmly established. It was soon found that an omnibus, with its easy mode of entrance and exit, is a very convenient article in the public streets, where passengers enter and alight at various points along the route; and hence omnibusses have affected what the old stage coaches never did or could effect, viz: the establishment of cheap routes through all the principal commercial arteries of London, and other great cities. The fares became gradually settled at six pence per passenger for any distance in and near London; but the last few years have witnessed a reduction to 3d. (recently 4d.) in respect to short distances.

The principle of competition has led to an instructive result in respect to metropolitan omnibusses. When each proprietor had only a few vehicles, he opposed, and was opposed by his neighbors on all sides; and a scene of recklessness ensued which endangered the lives and limbs of passengers as well as pedestrians. But this has given way to large combinations or associations, in which each proprietor brings his contribution of vehicles and horses to the common stock, and agrees to obey certain rules laid down for the guidance of all. The result has been admirable. With a few exceptions here and there, the omnibus system is now conducted with a regularity, a precision, a civility, and a safety, which was never before equaled.—Through the main avenues of New York and London, especially the New Road, Holborn, and the Strand, omnibusses proceed every two or three minutes throughout the day. There have lately been omnibus maps published, in which there appears a surprising number of routes. There are at least two associations or companies, each of which possess a hundred omnibusses, with considerable more than a thousand horses to work them. It has been found by experience,

that to buy good horses, and to treat them well, is a more economical practice than the opposite system. Most of the horses employed in the Paddington and City trade, (we believe about three thousand in number,) make but one journey each day in each direction.

Mr. Pownall has lately invented a *passenger-index* for omnibusses. It consists of an electric battery placed in the bottom framing of the vehicle near the door. Every passenger on entering the omnibus steps upon an elastic spring, which acts upon the battery, and this in its turn acts upon an index or dial. At the end of a day's work, the machinery of the dial will show how many times persons have entered and left the vehicle. Such is the theory of the apparatus; but there seem at first sight to be many difficulties in the way of its practical use. A new kind of omnibus has also been recently started in Paris in which each passenger has a separate and distinct seat, and in which there are increased facilities for ascending to the roof of the vehicle.

For the Coach-Makers' Magazine.

Figs 20, & 21.—SLIDING SEAT BUGGY.

MR. SALADEE:—I have for some time been making a style of sliding seat Buggy which is peculiar to myself, and seeing in the March No. of your Magazine a beautiful design for a light Buggy, and to which my arrangement for a sliding seat is applicable with remarkable simplicity, I have taken the trouble to make the drawing (from Fig. 11 in March No.) by which is represented my plan for a sliding seat. Fig. 20 shows the Buggy as a two seated vehicle. Fig. 21 represents the same as it appears with one seat.

In the course of the last three years I have made quite a number of sliding seat jobs, after the style represented in your Guide for 1854, and of two other patterns made by Dunlap & Co. of Philadelphia. But when thrown into the attitude of a one seat affair, they exhibit alike a very unsightly and offensive appearance. My remarks have reference directly to the following imperfections attending the exterior appearance of the majority of this class vehicles, when assuming the appearance of a one seated carriage.

In order to be correctly understood, I will direct the attention of the reader to Fig. 2 in the Jan. No. of the Mag., (and which draft in my estimation, is superior to any other of this stamp now in use,) and by which we shall be enabled to convey the idea contained in the above remarks.

And first let us view Fig. 2 as it appears, viz: with the main seat shoved back, and the revolving seat turned up. In this position it represents a beautiful appearance, the entire outline

of the body seems to harmonize with this entire arrangement. Let the reader now imagine that the revolving seat is thrown back, and rests in the semi-circle space intended for it, and the back seat is drawn forward, thus making it appear as a one seated vehicle. It now becomes apparent to every observing mind that the very graceful appearance of this body in the former position has suddenly been converted into the most unsightly, stiff, and offensive looking trap known in the carriage kingdom. In demonstrating this fact I have but to invite the eye of the practical mechanic to rest upon the horizontal line extending from the back of the seat to the back extremity of the body, and next to the deep and bumpy appearance of the side immediately under the seat. Here the object the inventor of these sliding seats had in view, is totally lost. If I understand aright, the intention was to create a pattern which would appear with equal ease and proportion, as a one or two seated carriage, so that when it assumed the character of a two seated concern, it would appear as such in the eyes of the beholders generally. So also when it was run out as a one seat buggy, it should appear at first sight as though it was of the latter class, and at the same time hide as much as possible the facilities whereby it is converted into any different position.

As before intimated, this desirable object is by no means attained in the pattern under consideration, as the before stated heavy appearance under the seat, and the straight and slender termination of the hind part of the body, at once betrays all design of this character, and the most careless observer cannot fail to notice it.

In view of these objections to the majority of sliding seat buggies, and the desire of a substitute which would obviate those difficulties I was prompted to set my delicate ingenuity to work with the hope of bringing out a satisfactory result, and which terminated finally in the plan I now offer to the consideration of my brother workmen.

The proportions of the buggy being laid down to the scale required, I need not here pause to give dimensions any farther than pertaining to the shifting of the seats, and this I shall do by mainly referring the reader to the explanations given to the sliding seat of Fig. 2 in Jan. No. which gives the necessary explanations as to the manner in which the seat is made to slide back and forth; the only difference is in letting the iron (H by I) extend back of the body and rest on the stay which is attached to the spring bar and there fastened by the same bolt that secures the body loop, as illustrated in Fig. 20, and as a brace against horizontal concussion, another stay is applied. This stay is made out of $\frac{3}{4}$ round iron, gracefully shaped so as to let the centre of the same take the two bolts which connect the spring bar to the spring and each extremity to take the bolt which fastens the end of the iron bar B. to the prop at S.

When the carriage appears as a one seat vehicle, the projecting irons afford us good facilities for the attachment of a trunk rack, which can be so constructed as to fasten to them by means of thumb screws, and thus it can be readily taken off or applied. If desired, a step can be applied at the centre of the body for the purpose of getting in on the back seat, but as this makes a carriage of this class appear too complicated, and as the back seat is reached without any inconvenience by stepping over the front one, I have omitted the step.

At first sight it may be supposed that bar B. is not sufficient to support the seat with two persons on it. Neither it would, provided the weight came to bear upon the centre; but as it

rests at each end of the bar, and the upright S. being supported by the brace above described, it proves sufficiently strong. I have tested them, and am satisfied as to their practical operation.

Wheels, No. 3; Carriage part, No. 3.

J. D. P.

For Feb. 22, 1855.

FIG. 22.—TROTTER BUGGY.

Sir, Editor:—I am happy to see so many of the craft take up pen and pencil in behalf of your worthy Magazine, and having spent almost a lifetime in the business, and considering myself something of a draftsman, I have endeavored to imitate the example of those energetic brethren who have contributed before me. Therefore if the draft of my light trotting buggy (enclosed) will meet your approbation, give it room in one of your No's.

It is drawn to the scale $\frac{1}{2}$ inch to the foot, and its being of the most simple class, it needs no explanation. It has (as I intended to represent) a leather boot, stamped and fastened by means of small brass or silver headed nails.

This draft I am aware is nothing new to you, or your readers in the Eastern cities; but as you have never represented any thing of the kind in your work, I can assure you it will be appreciated by those who are located in country towns and cities. The wheels and carriage parts according to your table, should be I think, No. 2.

S. P.

The Coach-Makers' Magazine.

APRIL, - - - - - 1855.

TASTE.

There is a notion prevalent among uneducated people that the quality called *taste* is a peculiar gift with which an individual is endowed at birth, and which cannot be acquired by study or any amount of application. Some portion of this belief is supposed to be founded in reason, inasmuch as the physical faculties of some individuals are at birth more perfect than others, and the difference may exist in the perceptive faculties generally, on which faculties the quality of taste must depend.

But, even as weak eyes may be strengthened by judicious treatment, and strong eyes be made weak, by injudicious treatment, so inferior perceptive faculties may be improved by cultivation, and those which might have been first rate may disappear by neglect. Nearly all persons have the germs of taste to a greater or lesser extent. Even in those nations where the germs of taste are developed in but few individuals, where the mass of the community cannot discover beauty for themselves, they are yet susceptible of its influence when it is placed before them by others. If it were not so, the expression "a person of good taste" would not be used so commonly as a mark of approbation. The phrases "a person of taste" and "a person of genius," in common language, mean two different things. But they are in reality merely a modification of the same thing. Perceptive faculties of a high kind, without much cultivation, give a critical power to examine the productions of art generally, but when highly cultivated, they give

the power of creating works of art of the highest class, and this faculty is by common consent called *Genius*.

Taste may be considered another word for truth, proportion or beauty. Much false taste, however, exists in the community at large, and among no class of mechanics does it exist to a greater extent than among that class for whom we are laboring. Still it is encouraging to notice that the total amount is lessening each year.

The reason of the false taste is the imitative nature of man, which in an uncultivated state follows without examining. But even as it is the nature of water to attain a state of rest after violent oscillations, so it is the tendency of truth, proportion and beauty, to grow out of the chaos either of thought or matter.

When an individual by the force of his genius or cultivated taste sets a true type in any work of art, the public soon begin to appreciate it—to take pattern by it—to imitate it, and though many imitate badly, still there is a marked general improvement.

Carriages constructed for the purpose of pleasure, are of course works of art, in which is laid open a wide field for the development of taste in form, color, proportion and beauty. The form of the carriage, be it what it may, the workman should keep this one important point constantly in view, viz: To display taste and design in the lines which constitute the form of the carriage; to guard against unsightly shapes and curves, broken sweeps, &c., and have one line to follow another in harmony with the leading line of the body. The size and weight of the carriage should be proportioned to the power which is intended to move it, as well as the burden, or persons which it is designed to carry, and the proportion of the parts having been once accurately settled, the same rule of proportion must be observed whether on an increased or diminished scale. Having now settled the preliminary of form and proportion, the next consideration is that of color. Taste in the latter can do much towards amending the defects in the former, or at least can divert the attention of ordinary observers from dwelling upon them. Certain colors produce their effects by contrast, as green and red, purple and yellow, orange and blue. Others, again, produce their effect by harmony, as green and drab, or brown and amber. Others again by gradation, as the different shades of green, blue, and drab, which consist of an almost endless variety. Colors are generally divided into two classes, the *warm* and the *cold*. Red and yellow and their various gradations are warm colors. Green and blue and their various gradations are cold colors. The intermingling of the opposite colors forms neutrals.

It therefore becomes the painter's duty to consult the form and proportion of the vehicle to be painted, or the color and style in which it is to be executed. If there is any particular line or panel about the side elevation of the body

which is intended to appear the most prominent, he must observe the rule and carry it out in the painting, as much depends upon the taste and judgment of the painter in making the outlines of the carriage appear (when completed,) in harmony with the original design of the body, and the same remarks are equally applicable to the trimmer. Nothing is a greater violation to the law of good taste and correct proportion than to take a plain body in which no attempt has been made in the least at anything like fancy or ornamental in its construction, and apply to the same an outfit of trimming which has been executed in the most extravagant and ornamental style. It shows at once a lack of good judgment on the part of the one superintending it. It appears to us very much like the anecdote of the young and inexperienced servant girl, who at one time (and for the first time in her life) was invited to the wedding of a friend, and thinking this a very extraordinary occasion, it was absolutely necessary to dress accordingly. Therefore she imagined that her new calico dress and plain scarf would not look in harmony with each other in the eyes of the fashionables she was about to come in contact with. It so happened that the mistress had gone for a few days, which she thought a lucky circumstance, as her absence would give her free access to her ladyship's wardrobe. In looking over the many beautiful and costly garments it contained, she was struck with the gaudy appearance of a large, embroidered scarlet shawl, which could not have cost less than \$75 or \$100. This, she concluded, was just the thing, and accordingly wore it over the calico dress to the wedding. The result was she became the object of many severe remarks from those of her sex who possessed correct ideas of a good taste, and correct proportion in the style of dress, and in the eyes of such it appeared (as it truly might,) perfectly disgusting.

A plain and unpretending carriage, when thus arrayed with a trimming, which it is evident cost more than all the other materials about it, has the same effect upon the mind of a close observer, and it at once becomes apparent that more money was expended in its construction than sound judgment, and consequently proves the skill of the manufacturer, be it good or bad.

Now there are many coach-makers even at the present time who display no more taste or judgment of what constitutes correct proportion throughout the carriage, than that of the ignorant servant girl, and consequently when it is run out before the eyes of the world, they must hear many hard things said of their productions by those who are more experienced than themselves.

It therefore becomes necessary that they cultivate that taste of which they are all capable of doing, not only in one branch but in every department, so that when the productions of each are combined in one, (as is the case in carriages,) there will be seen to exist that harmony of the

different parts so pleasing to the eye, and satisfactory to the mind of every scientific mechanic.

DIMINISHING FRICTION IN AXLES.

The simple fact of wheel carriages being so advantageously substituted for sleighs and sledges, is because the rubbing or friction instead of being between the bottom of the runners and the stones, and irregularities of the road, it is transferred to the axle and the box which revolves around it. Thus, while the carriage is moved forward, say 15 feet, by one revolution of the wheels, the rubbing part, viz: the axle, only passes over from two to three inches of the interior surface of its smooth, and well oiled journals. It therefore becomes apparent that the smaller the diameter of the axle arm, the greater is the friction diminished, and consequently the less resistance to draft.

In view of this fact we are of the opinion that no wood axle can be employed in any kind of locomotive vehicle with the same advantages as those constructed of iron, as in the application of the latter, two very desirable objects are attained, viz: the circumference of the axle arm can be greatly reduced, and at the same time retain more strength than the wood axle of twice its diameter, and in the second place the application of the iron axle imparts a much lighter appearance to the vehicle in which they are employed.

It is but a few years ago when wood axles were almost universally employed in the construction of carriages, and in heavy wagons it is still a prevalent practice. But as soon as the practical coach-maker was brought to investigate the facts above referred to, he immediately abandoned the old theory, that of wooden axles with large spindles, making the vehicle follow the horse easier than the iron axle, and we doubt not but that the time is fast approaching, when iron axles will become universal in the construction of all kinds of locomotive vehicles.

In diminishing friction, we of course increase the ease of forward motion, or in the same proportion diminish the resistance to draft, and it is to this fact we wish to call the attention of our readers; and while we would recommend the use of iron axles in preference to wood, we would not fail at the same time to point out the great deficiency so prevalent in the majority of axles now manufactured and thrown into market for sale, and this deficiency in that class of axles has been the cause of much prejudice among coach and wagon makers, against the use of iron axles of any and all kinds. The denomination of axles here referred to, are those known most generally as the common axle with pipe box. The latter is composed of hard, cast iron, and the interior very roughly turned out. The axle is made of soft wrought iron, and finished in like manner; without any further ceremony the pipe is slipped on the spindle, the nut screwed up, and in this imperfect state, they are pushed into

market. They are being very extensively manufactured in Pittsburgh, by Coleman, Halman & Co., also in Wheeling, Va.

Experience has demonstrated the fact, that in the use of this axle, an unnecessary amount of friction is created, for the reason that the softer parts yield to the harder when the two come in contact, and if the abundant application of grease is neglected, it is at all times liable to increase or produce such a multiplicity of friction as to heat the box and axle so hot as to unite the two together.

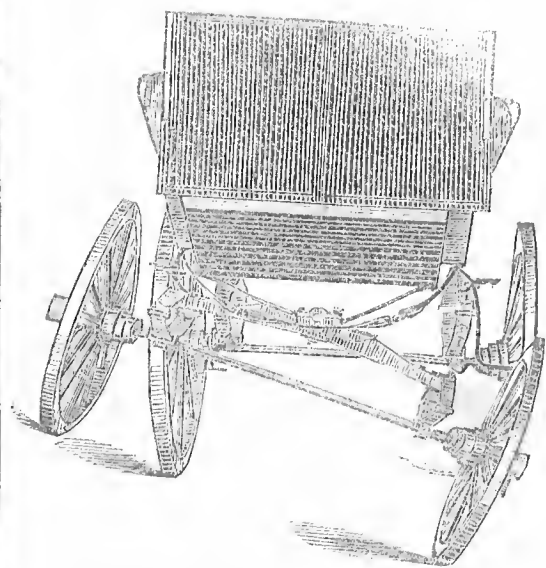
This evil, however, is readily obviated, and friction greatly diminished, by making the surfaces which come in contact with each other perfectly smooth, and before the necessary degree of smoothness can be attained, in order to give the axle the required polish, they must undergo the very simple process of case-hardening. By this means the surfaces are carbonated and rendered equally hard with the hardest converted steel, and yet preserve the tenacity of the iron in both box and axle, as the carbon does not penetrate deeper into the iron than $\frac{1}{2}$ part of an inch from the surface, and thus they are made susceptible of receiving a high polish. With an axle of this kind, perfectly fitted, (leaving, however, a reservoir for the oil) applied to any kind of a vehicle, it will be found to possess better qualities than any other ever employed in the construction of carriages and wagons, as they require less oil, create less friction, consequently less resistance to draft, and they also obviate the evil so common in ordinary axles, of becoming loose on account of the rapid wear, which is the natural result of soft iron. However, if the common axles above referred to, can be purchased, which are perfectly fitted and turned smooth, the carriage smith can easily put them through the process above described, and if he has a lathe he can afterwards polish them with little trouble. Coach proprietors who are continually ordering axles for their own consumption, should bear this important fact in mind, and purchase none but those that are case-hardened, or those which are capable of being thus treated by the workman before they are applied to the work, as it is self evident that by the use of this axle, friction is materially reduced, will wear better, remain fitted a longer time, will cause the carriage to run more smoothly and with less resistance to draft, and consequently must result in rendering universal satisfaction to the coach consuming public, and aid in building up a permanent reputation for the manufacturer.

The Drawings of the Omnibus occupying one entire page in this No. deprives us of giving that variety of styles we otherwise would have done. In our next we will illustrate a new style of Rockaway and Buggy. Also, three other fashionable designs.

IMPROVEMENTS IN ENGLISH CARRIAGES.

[CONTINUED]

The following illustration represents an improvement in the English carriage, a patent for which was granted to Mr. T. Fuller, coach builder of Bath, England, some years ago.



The difficulties this improvement is intended to obviate in the construction of carriages, is certainly a desirable object. The connection of the back carriage with the front, in a manner so as to avoid the strain which is thrown upon the body when in the act of passing over obstacles and irregularities in the road, has ever been a subject of thought, and much experimenting by the ingenious and practical coach-makers of our day, but as yet, nothing has been presented to the public which is capable of accomplishing this important object.

One of the most prominent mechanical imperfections now existing in American carriages, is that attending the construction and application of the fifth wheel between the spring block and front axle. The two are so connected together, as to be entirely destitute of every facility [save that derived through the elasticity of the springs] by which the body and perch may be relieved of the strain it must now overcome. The nearest approach we have ever yet seen to the accomplishment of this object, is that of Mr. Fuller, as represented in the above engraving, and to carriages without perches it is no doubt applicable, to a good effect. But as there is not so much strain upon a body thus suspended, (from the fact of its having one spring under each corner, and which gives more or less in a perpendicular direction with every obstacle over which any one of the wheels may pass,) it is therefore not so necessary in this class of carriages, as it is in those which are constructed with a perch and but two springs.

We have not presented this improvement of Mr. Fuller with the object of recommending its application to American carriages, as a moment's glance at the design will suffice to show that such would be impracticable. First—because

it is not absolutely needful in carriages suspended upon four springs and without perch, and secondly, because it is in no manner applicable to carriages with perches, and two springs, and which latter class exist fifty to one of the former throughout America. But the object in presenting it to our readers at this time is for the purpose of showing the principles upon which it is constructed, that some of the ingenious heads among us may thereby be led to discover some means by which the same principles can be applied to carriages with perch, and without which no carriage of this denomination can ever be termed a perfect machine in every point of view.

When we pause to consider the progressive age in which we live, it seems like a rather surprising circumstance that this imperfection should have been permitted thus long to exist in the construction of carriages. Reader, think of it.

THE FRENCH RULE.

The first example of the French Rule is illustrated in this No., and as before stated, we shall not introduce more matter in each article upon the subject than we should be able of rendering comprehensive to the mind of the reader. Hence it is that we have explained but few points in the illustration referred to, as we desire each reader who is giving it his study should perfectly understand the object of each line illustrated, as we proceed in the explanation of this rule; consequently we shall present but two or three points in each article, so as not to confuse or tax the mind of the student. We therefore hope they will endeavor to comprehend the few ideas we have advanced in this No., so as to enable them to conceive those which are to follow.

WHO HAS THE LARGEST CARRIAGE FACTORY IN THE UNITED STATES?

Our old friend John C. Ham, 358 Broadway, has just issued the most complete advertising chart we have ever seen gotten up for that purpose. His chart represents 161 cuts, some of which seem to have been copied from Mr. McKimstry's show bill, and some fifteen of his best engravings are taken from the fashion plates of the Coach-Makers' Guide, without the author's consent; said fashion plates being copyrighted the gentleman will no doubt get into trouble. But the most interesting feature in this advertisement is that it answers a question which many of our readers have asked us, with the hope we would publish the answer, viz: *Who is the largest Carriage Manufacturer in the United States?*

This was a question we must confess puzzled us, and therefore answered the same by remaining silent. We have the pleasure of knowing quite a number of proprietors throughout the eastern country, who are classed among the most extensive manufacturers in the Union. But which is really the most extensive was not for us

to know. But at the present writing, the mist is banished from our sight and we see clearly that John C. Ham is the identical man in question, and in order to substantiate this assertion beyond the possibility of a doubt, we give the following quotation from Mr. Ham's new advertisement, viz: "GENTLEMEN WILL FIND IT TO THEIR ADVANTAGE TO APPLY TO JOHN C. HAM BEFORE PURCHASING ELSEWHERE, AS HIS FACILITIES FOR MANUFACTURING, ARE GREATER THAN ANY OTHER CARRIAGE MAKER IN THE UNION."

Really, we are happy to see Bro. Ham getting along so rapidly.

THE SCIENTIFIC AMERICAN.

It is not necessary that we should here pause to speak of the scientific and mechanical abilities of this highly popular and useful journal, as that fact is already established in every corner of the civilized world, but we would most earnestly entreat every one of our readers who are not visited by this interesting messenger, to become a subscriber to the same. It is a weekly journal of eight pages, beautifully printed, each No. containing ten illustrations (more or less,) representing all the valuable improvements of the age. Its contents embrace all the latest scientific, mechanical, chemical and agricultural discoveries, also a weekly report of the doings in the Patent Office. Terms, \$2,00 per annum. Address Munu & Co., (post-paid) 128 Fulton st., New York City.

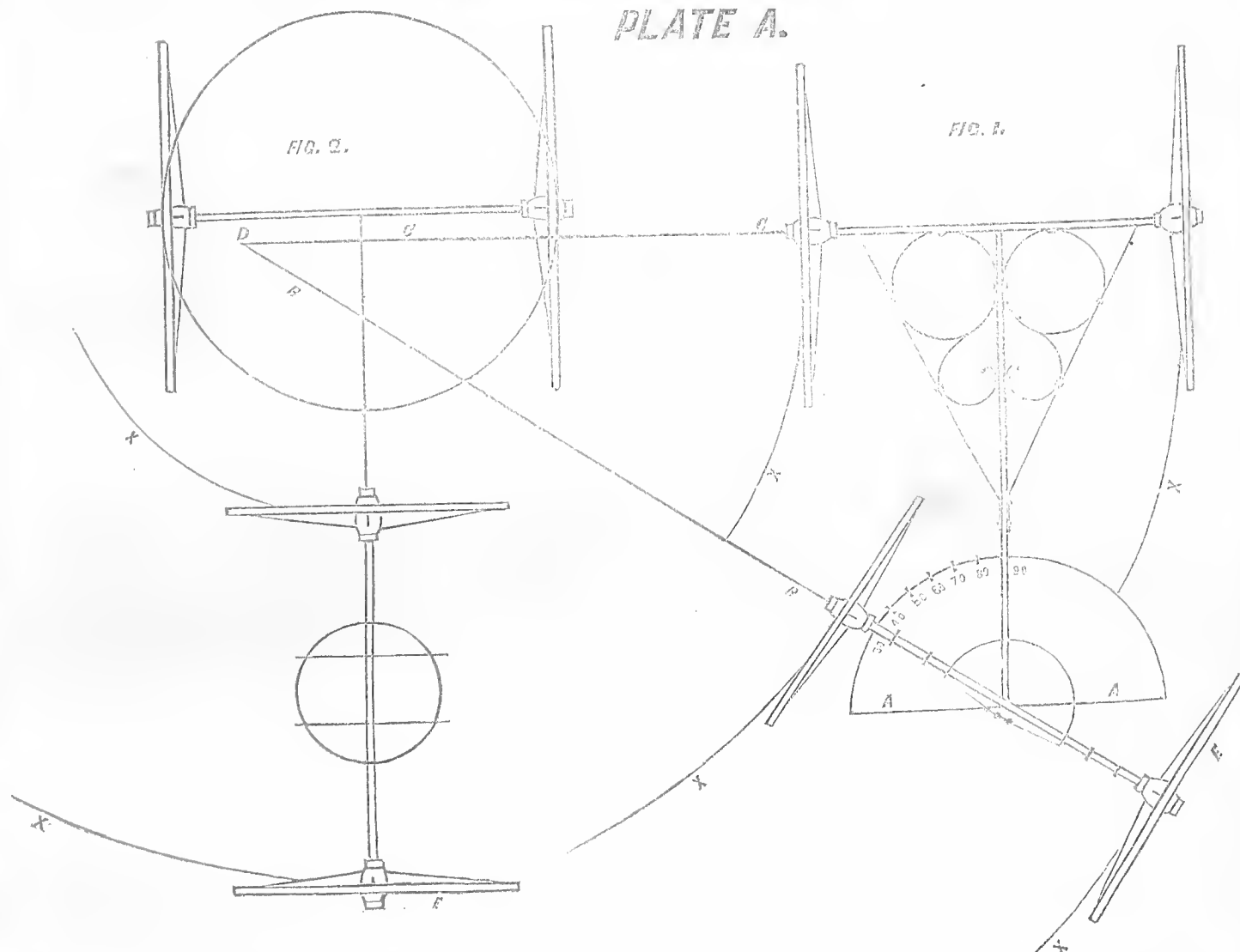
We take pleasure in calling the attention of the craft to the card of Messrs. W. P. WILSTACH & Co., No. 28½ North Third street, Philadelphia, Pa., as it appears in this No. Mr. W. P. Wilstach, the senior partner, is well and favorably known to many of the craft throughout the Union as an honorable and straight forward business man, and by his constant application and persevering industry he has secured to himself as large a circle of patronizing friends as any other house of this denomination in our country. We therefore cordially recommend the house of Wilstach & Co. to the favorable notice of the craft.

MR. F. J. FLOWERS' CONTRIBUTIONS.—In this No. we give room to Mr. F.'s first article. The contributions of this gentleman will certainly meet with a cordial welcome among the craft, and especially so by the young and inexperienced brethren of the fraternity, as the rules which he will lay before them from time to time they will find of vast importance in the construction of carriages.

HAYDEN & BAKER, COLUMBUS, OHIO.—The coach-makers in the vicinity of Columbus and adjoining counties will find at the house of the above firm, all kinds of Coach Hardware and Trimmings necessary for the construction of the carriage throughout, and at such prices and terms that will meet the approbation of all who may favor them with their patronage.

See advertisement in this No.

PLATE A.



To the Readers of the Coach-Makers' Magazine.

Since Mr. Saladee has generously opened the pages of the Magazine for my contributions, I shall endeavor to lay before its readers such matter as will be both instructive and interesting. But first I would have it understood that I do not contribute to this work, with the view to boast of any superiority over my brothers in the trade, but am prompted by a wish to benefit them and also to advance the interest of a publication we have so long felt the need of, and I hope my brother mechanics will follow my example, and contribute to this journal of useful knowledge through which we can communicate, and be benefited by each other's experience.

It is my intention to present you with a series of rules, with plates, twenty eight in number, which are peculiar to myself and relative to the several parts of a carriage; but in presenting these rules I will state, that I do not intend them to teach the experienced mechanic, nor would I attempt to persuade him from his own peculiar method of working, yet I doubt not but he will notice some among them which he will find to his advantage to adopt. But I intend them more particularly for the younger branch of the fraternity to study in their leisure hours, by which they can learn a system of drafting and working that will give each part of a carriage its proper proportion, which I must say is much neglected at present, for the reason that there are few who have any particular system to work by, therefore when they commence a carriage, they cannot conceive how it will appear when comple-

ted. However, it is as necessary for a carriage-maker to see the end of his work at the commencement, (in his mind's eye,) as it is for the architect while he draws his plan to see in his imagination the building raised, block after block, until the whole structure is completed. But no one can do so unless they understand its philosophy, and have learnt the principle upon which each part itself acts in connection with another. This is what I intend to lay before the readers of the Mag., and I shall do so as briefly and explicitly as possible, and I hope to the comprehension of all. Should I fail to do this in any instance, I should esteem it a favor if the parties would make it known to the editor, and with his permission I will endeavor to give them all necessary information through the column devoted to answers to correspondents in the Magazine, or otherwise, if required.

Yours, Respectfully,

P. J. FLOWERS,

Detroit, Michigan.

In the first place it will be necessary to make a few remarks with regard to the annexed engraving, plate A. As the plate itself requires but little explanation, it simply shows in what manner the perch or reach of any given length in connection with the front axle at any angle, acts on the circuit of a carriage. I will here remark, and it is a well known fact, that it has been the study of many of our scientific men, to invent some method by which a carriage can be made to turn in the shortest space, and to do them justice, they have produced some very good in-

ventions. But they have their faults, as they are not adapted to all purposes, and in most cases they are laid aside for the old standard, the stiff perch to take its place again, which in my opinion, has never been equalled for general use, when properly applied. But it is too often the case that it is unnecessarily long or so short, that it will not allow the front wheels to have free action, and in either case it will increase the circuit of the carriage.

The cause of these mistakes is, that the perch is in most cases a matter of guess work, and to bring it to its proper length requires frequent alterations, which is perplexing, and also incurs unnecessary expense. But I will endeavor in my next to present you with rules that will obviate these difficulties. But to understand them it will be necessary to study the one before you mentally and experimentally, so that you may be able to see what a difference a slight variation in the perch or axle will make in the circuit of a carriage. I will suppose, for example, that you are to ascertain the circuit of a carriage with a perch six feet long, and the axle angling at forty; and again, a perch six feet four inches long, and the axle angling at forty-five.

EXPLANATION OF PLATE A.

Fig. 1 represents a carriage with a perch six feet long, and the front axle angling at thirty. A. A. is a semi-circle, showing the degrees of angles. Lines x. x. x. x. show the track and circuit that each wheel would make when in motion with the axle at this angle. Now if this carriage was set in motion and the axle remain-

ing at this angle, it would form a circle of twenty-six feet and four inches. Now to prove that this carriage will form a circuit of this diameter, without setting it in motion, it will be necessary to draw two lines, one on a line with the front axle as B., and the other with the back axle C., letting them continue till they connect at D., as shown by B. B., C. C., and D. being the connecting point and centre of circuit.

Fig. 2 shows a carriage the same size without a perch. Therefore it is capable of allowing the front axle to angle at ninety, which forms a square. Now if a pin was put through the centre of the back axle and fastened to the floor, then the carriage set in motion, the front wheels B. would form a circle of sixteen feet eight inches, the back wheels would form a circle of four feet eight inches, which is the width of their track. This experiment shows that a carriage cannot form a circle in a shorter space than twice the length of its perch or from centre to centre of axle, adding the width of its track.

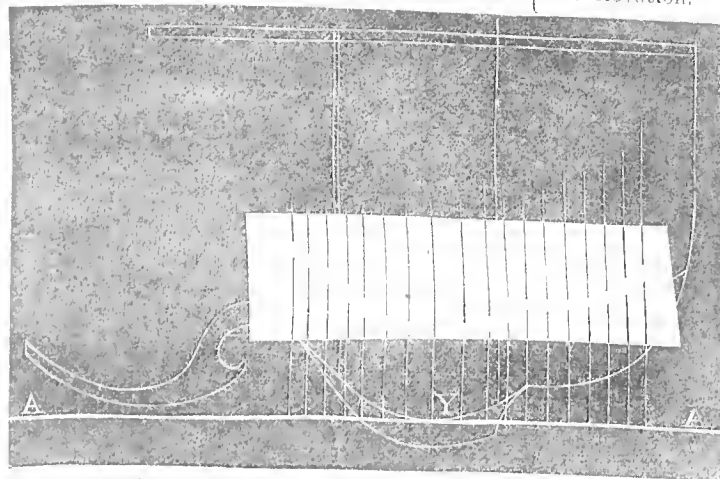
For the benefit of those who do not know the degrees of angles, and cannot obtain a semi-circle to learn them, I will explain how they can form one. First obtain a piece of tin, brass or ivory, and form a half circle of any size, we will say six inches, and divide it in seventeen equal parts. Now place the straight edge to the centre of the circle, and draw a line to each part, number them by tens to one hundred and seventy. This done divide each part into ten, and you have a semi-circle with all the degrees of angles.

For further explanation, see semi-circle A. A., Fig. 1. It would be advisable for those who intend to follow me through my experiments, to procure one, as they will find it useful throughout the whole, and also in drafting and working, as different bevels can be got by it. Forty-five a mitre; ninety a square, and in fact any angle you wish, as it comprises the whole.

THE FRENCH RULE.

[CONTINUED.]

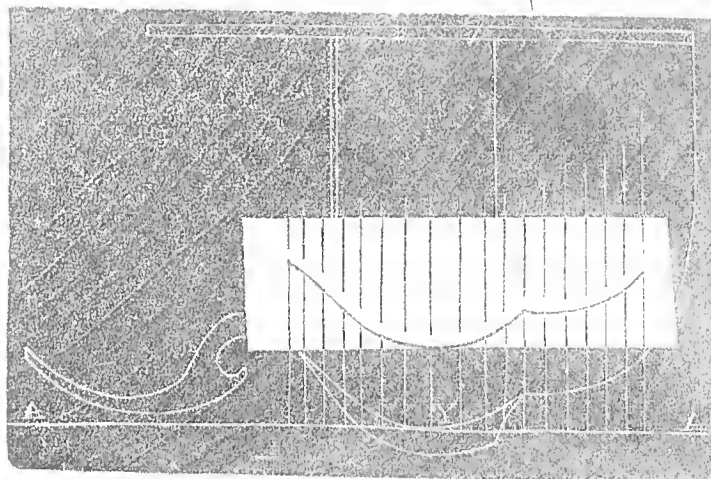
Having completed our side elevation on the draft-board, it next becomes our duty to make the patterns for the body so that they harmonize in shape with the lines drawn. Many different modes of accomplishing this important task have been devised, but we have never yet saw any rule so simple and complete as the following:



EXAMPLE 2. FOR MAKING PATTERNS TO THE DRAFT.

Let the white space represent the board or panel from which you design making the pattern for the bottom side or sill. Having laid the

panel in its proper location, draw the perpendicular lines as represented from line A. A. across portions of the draft board, and the panel laid upon it. Having made the perpendicular lines as described and illustrated, you will next ascertain the distance of the space from the deepest point under the door to the lower edge of the white panel. Supposing it to be 10 inches, you will measure 10 inches on each perpendicular line from the sweep line Y. which will give you the outline of the shape of the bottom side, as shown by the top ends of the perpendicular lines where they run on the white panel from line A. A. You will then draw a thorough line so as to let it touch the top ends of the lines above mentioned, from one end to the other, as represented below.



EXAMPLE 4.

You will now perceive that by this very simple process, we have transferred sweep line Y. (as far as we had intended) upon the board or panel from which the pattern is to be made, and after having taken the wood away to the lower edge of the line drawn on this panel, by application you will find that the curve thus obtained will correspond exactly with sweep line Y. In like manner you proceed to make all other sweeps of the patterns belonging to the side elevation.

Let us now decide how much swell we are to give the body on the side, both the throw under and the sweep from one end to the other. Let us then suppose the drop under of the body on the side is 3 inches, and the kant rail or top rail is swelled 4 inches; next we will make two patterns, one for the hinge pillar B., and kant rail M. (as shown in the following example 5.) In getting the sweeps of these two patterns we must use our own judgment in order to make them appear easy and not broken.

Supposing now that you have all the patterns made necessary for the construction of the body,

we will proceed to lay before you our next article, in which some of the most important lines are introduced for your careful consideration.

ARTICLE 3.

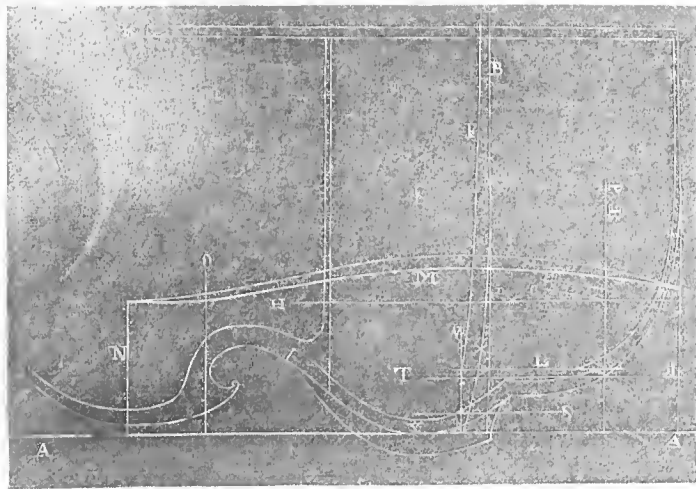
The reader will now suppose the draft board laying before him with no other lines upon it save those which constitute the side elevation. Bearing this in mind, we will proceed to describe the object of the lines drawn over it. And first, what width do you desire to have the body from outside to outside at the widest point. You answer, 3 ft. 3 in. Very well.—Then take the pattern of your kant rail and lay it on the side elevation, as represented by line M. so as to make it cross line B. 22 inches from base line A. A., which measurement is one-half the width

of the body. Having thus laid the kant rail pattern with the back end touching line J. you will take a bradawl and pierce through the pattern into the draft board directly on line B.; (the utility of which you will see presently,) next tell us how much you want the body contracted across the front at its narrowest point, viz: at line O.; say 6 inches. This then, will make the body at this point 38

inches wide. Therefore, you will measure half that distance from base line on line O., and cause the out edge of the pattern to rest at this point. Here, then, you will perceive the object in fastening the pattern as described, with the bradawl, at line B.; viz: that you can move either end of the pattern without doing so at this point. Thus when you have slipped the pattern down sufficiently on line O. so that the out edge will measure at this point from the base line 19 inches, you will perceive that the extreme width of the body over the top is obtained from one end to the other. Having the pattern thus located, you will draw line M.; next ascertain how far you wish to have the top extend over the front seat, and draw line N. perpendicular from line A. A., also line J. in like manner. You will now please notice that the base line A. A. is the centre of the body from a top view, and lines N. M. and J. show you the exact width and shape of one-half the top.

Being sure you fully comprehend the propriety of this, you are capable of seeing further, and we will therefore introduce line H. which (from a top view remember) represents the inside of the bottom side or sill, to which the rocker is afterwards attached. Supposing line H. to be drawn as represented, you will next proceed to draw lines X and W., which is accomplished by laying down the hinge pillar pattern, with the swelled edge towards perpendicular line B. and the lower end to touch base line A. A. as shown

upon the board below. In order that you may not mistake our meaning, we would here remark that lines X. W. and T. represent the flat side of the hinge pillar. Line X. shows the throw under. Line W. is the inside edge of said pillar, which line is in all cases perpendicular with any horizontal line. Having laid the hinge pillar as described, you will run around it with your chalk or pencil, which as before stated, will make the lines represented by X. W. and T. Now, set



EXAMPLE 5.

one point of your compasses where line S. crosses line B. and the other point to rest on line W. where it crosses line N.; to this space add 1 in. (which is the thickness of the panel.) The compasses now being set as directed, place one point on line B. where line M. crosses, and with the other point make a prick mark on line B. as illustrated by the short line D. Line D., therefore, shows you the exact point where the inside of the tenon or line W. to the hinge pillar will intersect the sill, or in other words the inside edge of the mortice for the reception of the hinge pillar. In gauging this mortice you work from the inside of the bottom side or sill, viz: set your gauge from line H. to short line D. and gauge the inside of the mortice, at the point where you intend to insert it, and whatever the thickness of the tenon may be, you will gauge on the outside of this. Having now ascertained the proper location for the mortice, it now becomes necessary that we know how to locate the shoulder to the tenon on the hinge pillar. Line S. where it crosses lines X. and W. will show how much the hinge pillar is taken off at the bottom when planted into the sill at line B.; consequently, the thickness of the sill above this point will give the exact point for the shoulder, which you can make either square or beveling, to fit the top of the sill. If square then you must of course cut a surface immediately in front of the mortice, in like manner (square) so as to receive the square shoulder. If beveled, the shoulder rests on the top surface of the sill.

[TO BE CONTINUED.]

A FRIENDLY REQUEST.

We have just issued a Prospectus for our Magazine, which we purpose circulating throughout the United States and Canada, with the object of enlarging our already extensive subscription list. We have also sent a copy of the same to each of our present subscribers, with this No., hoping that each patron who is interested in the welfare of our enterprise, will exhibit the same to those of his friends who have not as yet sent

us their names, and solicit them to subscribe for the Coach-makers' Magazine.

Each subscriber who is taking a single copy, and can obtain five more names, in addition to his own, and will remit \$12.00, (having already paid \$3.00,) will be considered as making a club of six, and shall therefore receive a seventh No. gratis. Or if sending nine new names and \$17.00, he shall be entitled to the promised volume com-

plete in beautiful binding.

Will our friends exert their influence in behalf of the Magazine? We cannot be present to hear your answer, but something whispers it shall be as we desire. Please have the Prospectus posted up in your office or shop, and oblige your humble servant—THE EDITOR.

We have received from Mr. D. WOODRUFF, of Salem, Ohio, a daguerreotype of a very valuable machine for rowelling tire, which will appear in our next.

In our last we promised to illustrate in this No. a plan or design for a coach-shop, viz: the buildings, &c., by one of our subscribers in Mass., which we are sorry to say has come to hand entirely too late for insertion. However, it will be certain to appear in our next, and we have no doubt it will meet the approbation of those who have expressed a desire of seeing it inserted. We have several other designs, which we will insert during the year.

CONTRIBUTORS TO THIS NUMBER.

- MISS VIRGINIA WATSON, of Pa.
- MR. G. H. MULLER, of N. Y.
- CHAS'S HOLTS, of S. C.
- S. F. ADAMS, of Vermont.
- G. W. EDENBURG, of Canada West.
- JOHN E. MANLEY, of Conn.
- E. J. FLOWERS, of Mich.
- JACOB D. FORRIL, of Mass.
- SAMUEL PITCH, of Ohio.

ANSWER TO CORRESPONDENTS.

O. H. of S. C.—Odometers applied to carriages for the purpose of measuring their running distance, is nothing new under the sun. Berkman, the historian, makes mention of such an instrument being invented and applied to a wheel carriage, by one Godfred Kuntz, of Hamburg, Germany, in 1639, and that it accomplished the object for which it was designed, to the satisfaction of all who inspected it. However, it was never brought into common use.

Mr. Sanders, an aged gentleman of our acquaintance, now residing in Philadelphia, has informed us that one of these odometers was applied to a gig which ran in that city in 1695; built, if our memory serves us correctly, by Mr. Sarber, an old father in our fraternity, now residing at Schuylkill, Pa. An engraving of the odometer for carriages can be seen in Knight's Illustrated London. Notwithstanding it is old, you may nevertheless (as you remark) astonish the natives.

On highly improved roads and turnpikes, we must confess our inability of conceiving what possible advantage the application of this piece of clock machinery would be to a carriage, as the road is measured an hourk posts erected so that the traveler is never at a loss to know his whereabouts or the speed of his vehicle. However, on such roads as we are aware from sad experience, you have in portions of South Carolina and her sister States, such an apparatus might be of great importance, especially so when you come to pass through those pine regions where but few persons are seen capable of knowing the distance from one place to another, these instruments would most certainly be acceptable company. At least we thought so when making our tour through that country two years ago.

S. A. D., of N. Y.—Your design for a shifting front to carriage bodies for the purpose of making it appear either as a one or two seated vehicle is received, and upon inspection of the same we find that it is constructed on precisely the same principles as that of Mr. G. Simonton, of Reading, Pa., to whom a patent was granted last year. As carriage bodies are now constructed in a manner capable of attaining the same objects that both you and Mr. S. have in view, without the application of an additional front section, (viz: to answer and appear as either a two or one seated body.) (see Fig. 2 in Jan. No. of Mag.) we are unable to see the practical utility of this additional weight and expense to the body. The ordinary shifting seat buggy body is far superior in every point of view to any shifting body we have ever seen, notwithstanding the latter may bear the very popular inscription of "Patented."

P. D. P., of Mass.—The Enamelled Leather known as Ward's make, is, we believe, universally admitted to be the most durable and bears the finest trial of any other now manufactured. Ward's Enamelled Leather is also a superior article.

G. M. of Miss.—The reason your varnish turns white in spots over the wheel and carriage part referred to, after it stood out in a shower, is a positive proof that it is resin varnish, which was no doubt labelled coach or equal varnish. No varnish acts in this manner but is free of that material which is a curse to one half of the varnishes now manufactured for carriages, viz: resin. Order a good article of coach varnish from some responsible house, and you will never again have occasion to inquire after the cause of white spots on your work. The Queen City Varnish Co. of Cincinnati, O., is your nearest and best market.

S. F. N., of Mich.—How is it that you purport residing in Mich., and your letter bearing the post mark (Rochester, N. Y.) This circumstance leads us to suspect that the true initials of your name are M. G. H. If so, have the fortitude to state in what particular we have misrepresented the operations of Hubbard's Patent, and we will give it room in our next No.

L. D. of N. Y.—We are aware that many kinds of timber are employed for hubs. However, we should recommend the use of gum. If thoroughly seasoned before using, we think it will hold a spoke better than any other, and is not so liable to split or crack when in the act of driving the spokes or at any time thereafter.

N. L. A., of N. B.—By looking over our answer to correspondents in the Feb. No., you will find a direct answer to your inquiry.

C. W., of Ohio.—We have never seen a top of Huntington's Patent applied to a carriage of any kind. Our illustration you refer to, was (as stated in connection with it) a sketch simply from a small model which was exhibited in our office by the agent. At that time we understood him to say that it had not yet been practically tested, but that he meant to do so when he got to Cincinnati, O., where he would have it applied to a light buggy; therefore we are unable to inform you how it operates even in that class of carriages to which it is applicable. We have not heard anything in regard to its application in Cincinnati.

S. F. of Vt.—Sorry to hear Mr. S. G. Johnson, or any other Johnson never obtained a patent for the locking machine you refer to. However you are not alone in the trap; therefore rejoice together in your affliction, and endeavor to realize the song that the world is a barber shop and every man a barber, and in the future look out for the celebrated C. F. Johnson. He has a notorious reputation for cutting too deep.

J. T. E., of C. W.—Your communication is received. The patent lever for tops is not generally approved of by the manufacturers of this country. Shall be pleased to hear from you often.

Mr. Holt, of S. C.—Shall be happy to have you continue your contributions to the Magazine, as we consider them valuable to the craft.

Messrs. Forril, Manley, Newman, Sampson and Gates will please accept our thanks for articles received.

Mr. S. S. Mc., of Toronto, O. W.—You have made an awful blunder.—Try it again, and if correct we will publish it.

For the Coach-Makers' Magazine.
IRON AND STEEL.

QUESTIONS WITH ANSWERS.

Why is the use of iron believed to have been known in the earliest ages?

Because of its frequent mention in the Bible. Thus Tubal Cain, (who lived 4000 years before the commencement of the Christian era,) was an instructor of every artificer in brass and iron. Gen. 4, xxii; and we read that Abraham took a knife to slay his son Isaac. Gen. 22, x. In these early times mention is also made of shears, and of sheering of sheep. Gen. 31, xii, xiii.

Why is this knowledge supposed to have been afterward lost?

Because many of the ancient nations used stones, flints, the horns and bones of various animals, the bones and shells of fish, reeds and thorns, for every purpose in which the moderns now use edge tools of iron or steel.

Chronology informs us that iron was first discovered by the burning of Mount Ida, 1406, B. C. In England by the Romans soon after the landing of Cæsar. First discovered in America, in Virginia, 1715; first cast in England at Blackstead, Sussex, 1544.

Why was iron at one period forbidden to be used by the Romans, except in Agriculture?

Because they considered iron poisonous, and that wounds made with iron instruments healed with difficulty. Chemistry, however, has long since exposed this fallacy. Fourcroy says iron is the only metal which is not noxious, and whose effects are not to be feared. Indeed, its effects on the animal economy are evidently beneficial.

Why is iron the most useful of metals?

Because it becomes softer by heating, and is susceptible of being welded to another piece of iron, so as to form one entire solid mass, without the aid of rivets, solder or the melting of either of the pieces. No other metal possesses this singular quality or property except platinum. An iron wire only one-tenth of an inch in diameter will carry 450 pounds without breaking. A wire of tempered steel of the same diameter, will carry nearly double that weight.

Why has the iron trade of Great Britain increased so extraordinarily since the year 1750.

Because then pit-coal began to be generally used for extracting cast iron from its ores. In 1740 England and Scotland did not possess more than 50 furnaces, producing 17000 tons; whereas in 1827 they had increased to 284 furnaces, producing 690,000 tons. A writer of the French journal, therefore, describes pit-coal as the prime element of the manufacturers, and the wealth of England. The mean annual amount of the exportation of iron and steel from that country in bars and wrought works was from 1,200,000 £ to 1,500,000 £. The annual quantity of iron manufactured in Great Britain is about 690,000 tons.

Parks says: In great iron works the ore is broken into small pieces, and mixed with lime or some other substance, to promote its fusion; it is then thrown into the furnace, and a quantity of charcoal or coke in due proportion thrown in along with it. A part of the bottom of the furnace is filled with fuel only. This being kindled the blast of the powerful bellows is directed on it and soon raises the whole to a most intense heat. This melts the ore immediately above it, and the reduced metal drops down through the fuel, and collects at the bottom. The rest sinks down to fill up the void left by the consumed fuel, and this, in its turn, comes next in the way of the bellows, and is also reduced. More ore and fuel are supplied above, and the operation

goes on till the melted metal at the bottom increasing in quantity, raises almost to the aperture of the blast. It is let out by piercing a hole at the bottom of the furnace, and thus forms what are called pigs of cast iron.

Why is Swedish superior to British iron?

Because the Swedes smelt with wood instead of coke. It is imported into England in great quantities, and is chiefly used for carbonization in steel.

Why is iron deprived of its malleability by long continued hammering?

Because it loses a portion of its latent caloric. Dr. Black being of opinion that metals are malleable in proportion to the matter of heat which they contain in a latent state.

Why is cast iron puddled and rolled?

Because a principal part of the foreign substances are thus burned away or squeezed out, and malleability is conferred upon the metal by rendering it more pure.

By this curious process of puddling, cast iron after it has been to a certain extent refined, by refusion in a forge, is, in this country converted into wrought iron. The cast iron is put into a reverberatory furnace, and when in fusion is stirred so that every part may be exposed to the air and flames. After a time, the mass heaves, emits a blue flame, gradually becomes tough, and becomes less fusible, and at length pulverulent. The fire is then urged so that the particles again agglutinate at a welding heat, and are gradually wrought up into masses. In that state of intense heat the masses are placed successively between rollers, and the bars made malleable. They are cut into pieces and placed in parcels in a very hot reverberatory, and again hammered or rolled out into bars. They are thus rendered more tough, flexible, and malleable, but much less fusible, and may be considered as nearly pure iron. J. R. M.

[TO BE CONTINUED.]

FACTS AND DATES.

Chronology of some important inventions, &c.

Maps, Globes and Dials were first invented by Anaximander in the sixth century before Christ. They were first brought into England by Bartholomew Columbus, in 1489.

Comedy and Tragedy were first exhibited at Athens, 552, B. C.

The first public Library was founded at Athens, 526, B. C.

The first public Library was founded at Rome, 167, B. C.

The first public library was founded at Alexandria, 284, A. D.

Plays were first acted at Rome, 239 B. C.

Paper was invented in China, 170 B. C.

The Calendar was reformed by Julius Caesar, 45 B. C.

Insurance on ships and merchandise first made in A. D. 13.

Saddles came into use in the 4th century.

Horse-shoes, made of iron, were first used, A. D. 81.

Stirrups were not made till about a century later.

Manufactures of silk brought from India into Europe, 551, A. D.

Pens first made of quills, A. D. 635.

Stone buildings and glass introduced into England, A. D. 674.

The figures of Arithmetic brought into Europe by the Saracens, A. D. 991.

Paper of cotton rags invented towards the close of the 10th century.

Paper made of linen in 1300.

The degree of Doctor first conferred in Europe, at Bologna, in 1130, in England, 1209.

The first regular Bank was established at Venice, in 1157. The Bank of Genoa was established in 1407; that of Amsterdam in 1609; and that of England, 1694.

Astronomy and Geometry brought to England, 1220.

Linen first made in England, 1253.

Spectacles invented, 1280.

The art of weaving introduced into England, 1339.

Musical notes, as now used, invented 1330.

Gunpowder, invented by Melchior, of Cologne, 1320—40.

Cannon first used at the siege of Algerias, 1312.

Muskets in use, 1270.

Pistols in use, 1544.

Printing invented at Mentz, by Guttenberg, 1440.

Printing into England, 1471.

Post-Office established in France, 1474; in England, 1581.

Turkeys and chocolate introduced into England from America, 1520.

Tobacco first introduced into France by Nicot, 1569.

First coach made in England, 1564.

Clocks first made in England, 1568.

Potatoes introduced into Ireland and England in 1586.

The circulation of the blood discovered by Harvey, 1619.

The first newspaper published at Venice, 1630, in England, 1641.

Tea introduced into England, 1668.

The steam engine invented by the Marquis of Worcester, 1655.

Fire engine invented, 1663.

Turnpikes first made in England, 1663.

Bayonets invented in Bayonne, (whence their name) 1670; first brought into use at the battle of Saurin, 1693.

Stereotype printing invented, 1724.

New style of Calendar introduced into England, 1752.

Air balloons and Aërostatica invented in France, 1782.

The first mail carried in England, by stage-coaches, 1785.

The Cotton Gin invented in Georgia, 1794.

Life boats invented in England, 1802.

The first steamboat on the Hudson, 1807.

The streets of London first lighted with gas, 1811.

The above items show how slowly the condition of man has changed from age to age. During the first thirteen centuries of the Christian era, there was hardly any improvement of mankind, in their social, political, or intellectual systems. The liberation of the public mind from its depressing tendencies, by the invention of printing, the reformation and the introduction of fire-arms has produced the rapid progress which it has made during the last few centuries in noble inventions and discoveries running through the whole circle of art, science and literature.—With the wings of the morning, it has gone to the uttermost parts of the earth; it has grasped the highest truth of the sky above, and sought out the profound depths below; and in every place, and over all subjects, mind is asserting its mastery and achieving its conquests.

THE NEW YORK CRYSTAL PALACE.

As a financial operation, the stockholders of the Crystal Palace in New-York found it a total failure. Not only was the original stock entirely sunk, but debts to the amount of \$250,000 were permitted to accumulate against it. A desperate effort was made to retrieve its fortunes by placing Barnum at its head, but even all his skill and tact in business of this kind could not save it from total bankruptcy. The contents of the spacious and magnificent structure have been removed, and, for some time past, the question has been, what shall be done with the edifice. Experience has demonstrated that no man or company can afford to keep it in operation as a place of popular resort. It does not pay. It is too far up town. If it were in the Park, the case would probably be different. But no body wants to buy, and there stands the most elegant and superb building on the Western Continent, tenantless and deserted.

We learn from the papers that a proposition is made to sell the Palace to the United States, and to remove it to Washington city, there to be used as a store house of the Patent Office department. The idea strikes us as peculiarly appropriate. The entire cost of the structure, including the purchase money and its removal from New-York to Washington, it is said, will not exceed \$250,000. It is capable of holding five times as much machinery, models, &c., as the present rooms devoted to the Patent Office. The form of the building, the amount of light that is admitted, and the peculiar adaptation of the halls and galleries to the proper exhibition of models, all seem to make the suggestion of the purchase peculiarly appropriate.

It may be said that the government does not need so vast a structure for this purpose. This, we apprehend, is not true. The present rooms are already crowded, quite too much so for a convenient inspection of the various models. Scarcely a Congress passes without vast appropriations for new departments, and the extension of old ones. The extension of the capitol will probably cost the government more than the original edifice. Besides, there is to be no end to the accumulation of patent models. Thousands of new inventions are patented, every year, and each, from a pin head, to a steam engine, must have a model in the patent office. There must be some place to deposit them. The people of the Union insist upon a right to have them placed so that their merits may be examined. We have no reason to suppose the number of new patents will grow less as our population grows larger. On the contrary, they increase with the growth and prosperity of the country.

Dreaming philosophers may sneer at these things as unworthy the serious attention of Government, but we think the progress and material advancement of all parts of the Union have a

nearer connection with the models in the Patent office than our old fogies are disposed to admit. So long as we enjoy the wealth and the power which the steam engine and the cotton gin have showered upon us, we should continue to foster and encourage the inventive genius which is already so prominent and profitable a trait in our national character. Our laws are framed expressly to develop this spirit. Let the grand results of our efforts find a fit edifice for their exhibition at the Capital of the Republic.

For the Coach-Makers' Magazine.

MONTREAL, C. W., Feb. 23, '55.

MR. EDITOR: *Respected Sir*—I have just perused the contents of some mechanical works which have come to hand through the mails, and in one of them I find the following beautiful sentiment, by the author, which is truly encouraging to the heart of every scientific mechanic. In speaking of the mechanic as the truest nobility of earth, and showing the disrespectful manner in which many of the self-conceited aristocracy look down upon that class who bear the name *mechanic*, we hear him break forth in this wise:

"As for ourself we ask no name more honorable than of *mechanic*, though we had the wealth, rank and station of a lordly prince, it should never be said of us, we are ashamed of the name of mechanic. Far from it; we glory in the name. Let it be linked with us on every stage of life, and if you would inscribe honor to our name, after we have ceased to move and act, we ask, let it be engraved upon the humble stone which may perchance mark the spot of our earthly remains, *he was a mechanic*."

An individual who is seen to take sides with his fellow mechanics in this able manner, is certainly the right man to take the chair editorial of the Coach-makers' Monthly Magazine. I am, therefore, kind sir, delighted to know you as the author of the sentiment above quoted (from the C. M. Guide, 1854) and as the editor of the said Magazine. In my humble opinion there never was a publication of the mechanical order devoted to any one branch exclusively, so complete in every point of view as your Magazine for Coach-makers. Just the thing that every man in the business must have to keep pace with the times, and improvements of the age.

As a token of my esteem and regard for yourself as a thorough mechanic and an able editor, and your Magazine as a publication tending to the onward progress of the craft, you will please accept the enclosed.

Most truly yours,

G. W. EDENBURG.

To Mr. G. W. Edenburg, of Montreal, C. W.

DEAR SIR:—It is with no ordinary emotions that we attempt to respond to the encouraging words in which you have expressed your sentiments in regard to ourself, and our feeble efforts for the improvement and onward progress of that branch of the industrial arts to which we belong. And in accepting your valuable present, permit us to assure you that it shall possess to us a value far beyond its intrinsic worth; recalling, as it will in all future time, the most pleasing remembrances of him who gave it, and the motives which prompted him so to do.—[Ed.]

For the Coach-Makers' Monthly Magazine.
ON VARNISH.

MR. EDITOR:—Permit me to say a few words through the medium of your Magazine, on the subject of varnish, warranted by twelve years experience and work with the same. I do not presume that my rule is infallible, but it has ever guided me aright, and I therefore conclude it may be of service to others. The object of your journal is to enlighten and extend knowledge to those who seek for it at the fountain head; as many small streamlets combined, forms the mighty deep, so small fractions of facts, gathered by the way side, as we journey on through life and labor, may swell the current of mechanical knowledge, and general intelligence.

Your correspondent J. M., of Mich., wishes to know whether there is any rule by which an inferior article of varnish may be detected before applying it to the work. In view of this I offer the following observations: And first I would say, never buy varnish in those small bottles which are seen on the shelves of druggists marked "Copal Varnish," and generally sold at 75cts. per bottle. Shun them as Father Mathew would a bottle of *Rum*. And those who are operating in the country, or small villages, far from regular markets, should also decline buying the varnish sold by druggists on draft, as neither country merchants nor druggists can be, or are good judges of this article, and consequently an inferior article of varnish is the result of their purchases.

That kind of Copal Varnish sent in these small bottles, is most generally made from North Carolina Copal, tapped from the pine tree, with a very small sprinkling of the *real Gum Copal*. There are three kinds of gum—South American, (good)—East India, (better)—African, (best.)

Gum Copal is a very tenacious gum, hard to melt, and when held in solution by oil and turpentine as varnish, it still retains its tenacious qualities. In purchasing varnish notice this, and by observation you will soon learn to distinguish between pure and inferior stuff before applying to the work. Good varnish when poured out of the can, has an oily, smooth appearance as it runs, with a mild odor, not disagreeable, very pale brown color; whereas the rosin varnish runs out quick, color approaching nearer red, and a very strong smell.

Again, apply a little of the varnish on the end of your thumb and with the fore finger lifted up and down, it will soon dry. Now notice, good varnish will pull into fine threads, while the inferior or rosin varnish will imitate a cracking noise.

Again, you can varnish some trifling article, let it stand till thoroughly dry, then apply a scraper or sand paper, and if it flies into fine white dust, use no more, but let it slide also.

This is my experience for a number of years, and as before intimated I have never known it to fail. The surest and best mode of obtaining good varnish is to pay a fair price for it, and buy from some responsible manufacturer. Thus you avoid all trouble. Let every coat of paint dry thoroughly before applying another, and your varnish will wear for years. Here lies the grand secret of so much inferior coach painting. One coat is applied after another without any regard to time for drying, and then finished off with two or more coats of varnish. You might as well attempt to confine steam in an over heated boiler as to confine the moisture of paint, as out it will and must come.

C. H.

MISCELLANEOUS.

For Saladee's Magazine.

Composed upon reading the opening chapters of Saladee's "Early History of Wheel Carriages."

THE CHARIOT.

BY MISS VIRGINIA WATSON.

Egyptian was thy origin;

Classed with instruments of strife,
By which devastation great was made,
In the sacrifice of human life.

The ancient sons were made to dread
The sound thy wheels created,
As they would the rattling serpent,
Who lives but to be hated.

Many a noble Egyptian heart,
Felt its cords assunder burst,
As thy archer sent the deadly dart
That made him bite the dust.

Vain was the charioteer's delight,
Who id thee thus employ,—
To meet his foe in bloody fight,
Or his captives to amuse.

Few, indeed, could greet thee then.
Or rejoice at thy approach—
As thy mission was not pleasure,
Like the now luxurious Coach.

But with the steed of Progress,
And invention for thy guide,
And Perseverence thy postillion,
How changed on every side.

We behold thee now in every land,
Where refinement has a home,
In every town and city
To the sons of Freemen known.

Gone forever,—the ancient few
Who offered thee reproach,
And the universal cry is now—
A COACH! MY KINGDOM FOR A COACH!

THINKS I TO MYSELF.

I saw her again but a few days ago,
When Kossuth came down to our city;
The name of the lady I never did know,
But, thinks I, she's uncommon pretty,
And clever, no doubt, as she's pretty.

Thinks I to myself I have seen her before—
Fine face and black eyes, and black hair;
But I could not tell where, as I thought of it more,
And hang me 'f I could tell where;
I could not tell how, when, or where.

But now, both the time and the place I remember,
I remember her pleasing address;
At a certain hotel in the month of September,
We met at the doorway, I guess;
Yes, yes;
Thinks I, she's the person, I guess.

Thinks I, she would make a good partner for life,
But she's married or spoken for, I suppose;
Still, if that's not the case, and if I had no wife,
Thinks I to myself, I'd "propose."
Goodness knows,
If it want for all that, I'd propose.

But I'm married; thinks I to myself 'tis a pity,
I'm tied, and I cannot undo it;
Yet, thinks I there's no harm in writing this ditty,
Though it's well that my wife doesn't know it.
Old poet!
'Tis well that your wife doesn't know it.

For Saladee's Magazine.

TIED UP!

This morning, at half-past eleven precisely, the unfortunate young man Mr. Edward Pinkney, underwent the extreme penalty of infatuation, by expiating his attachment to Mary Ann Gale in front of the altar railings of Trinity Church, New York.

It will be in the recollection of all those friends of the parties who were at the Joneses' party on the Avenue two years ago, that Mr. Pinkney was there, and there first introduced to Mary Anne, to whom he began to pay particular attentions,—dancing with her no less than six sets that evening, and handing her things at supper

in the most devoted manner. From that period commenced that intimacy between them which terminated in this morning's catastrophe.

Poor Pinkney had barely attained to his twenty-eighth year; but there is reason to believe that for reasons of a pecuniary nature, his single life would have come earlier to an untimely end. A change for the better, however, having occurred in his circumstances, the young lady's friends were induced to sanction his addresses, and thus to become accessory to the course for which he had just suffered. The unhappy man passed the last night of his bachelor existence in his solitary chamber. From half-past eight till ten, he was busily engaged in writing letters. Shortly after ten o'clock his younger brother Henry knocked at the door, when the doomed youth told him in a firm voice to "come in." On being asked when he meant to go to bed, he replied, "not yet." The question was then put to him how he thought he should sleep; to which his answer was, "I don't know." He then expressed a desire for a cigar and a glass of grog, which were supplied him. His brother, who sat down and partook of the like refreshment, now demanded if he wanted anything more that night. He said, "nothing," in a firm voice. His affectionate brother then rose to take leave, when the devoted one considerably advised him to take care of himself.

Precisely at a quarter of a minute to seven, the next morning, the victim of Cupid, having been called according to his desire, rose and promptly dressed himself. He had the self-control to shave himself without the slightest injury, for not even a scratch upon his chin appeared after the operation. It would seem that he had devoted a longer time than usual at his toilet. The wretched individual was attired in a light blue dress-coat, with frosted metal buttons, a white vest and nankeen trousers, with patent leather boots. He wore round his neck a variegated satin scarf, which partially concealed the corazza of his bosom. In front of the scarf was inserted a breast-pin of very conspicuous dimensions.

Having descended the staircase with a quick step he entered the apartment where his brother and a few friends were awaiting him. He shook hands cordially with all present; and on being asked how he had slept, answered, "very well;" and to the further demand as to the state of his mind, he said "he felt happy." One of the party having hereupon suggested that it would be as well to take something before the melancholy ceremony was gone through, he exclaimed with some emphasis, "decidedly." Breakfast was accordingly served, when he ate three rounds of toast, two sausages, and three new laid eggs, which he washed down with two great breakfast-cups of tea. In reply to an expression of astonishment on the part of a person present, at his

appetite, he declared he never felt it heartier in his life. Having inquired the time and ascertained that it was ten minutes to eleven, he remarked, "it would soon be over." His brother then inquired if he could do anything for him; when he said he should like a glass of ale. Having drank this he appeared satisfied.

The fatal moment now approaching, he devoted the remaining brief portion of his time to distributing among his friends those little articles which he would soon no longer want. To one he gave his cigar-case, to another his tobacco-box, and he charged his brother Henry with his latch-key, with instructions to deliver it, after all was over, with due solemnity, to his landlady.

The clock at length struck eleven; and at the same moment he was informed that a carriage was at the door. He merely said "I am ready," and allowed himself to be conducted to the vehicle, into which he got with his brother, his friends following in two others.

Arrived at the tragical spot, a short but anxious delay of some seconds took place; after which they were joined by the lady with her friends. Little was said on either side; but Miss Gale, with customary decorum, shed tears. Pinkney endeavored to preserve a composure, but a slight twitching of his mouth and eye-brows proclaimed his inward agitation.

The ill-starred bachelor now walked side by side with Miss Gale, with a firm step, to the altar. He surveyed the imposing preparations with calmness, and gazed, unmoved, on the clergyman, who was waiting behind the railings.

All requisite preliminaries having now been settled, and the prescribed melancholy formalities gone through, the usual question was put, "Wilt thou have this woman for thy wife?" To which the rash youth replied in a distinct voice, "I will." He then put the fatal ring upon Miss Gale's finger; the hymenial noose was adjusted; and the poor fellow was launched into matrimony.

S. F. A.

EARLY HISTORY OF WHEEL CARRIAGES.

CONTINUED.
MARS ARES.

PHOEBUS APOLLO.



As we have made mention of the mysterious Queen Juno, and her chariot, we give the annexed engraving, which represents Mars (and his war chariot) who was the son of Juno and Jupiter. He was the God that presided over war. This cut serves as a correct illustration of the two wheeled war chariot of the ancients.

As Phoebus Appollo was a remarkably handsome and accomplished God he had many love adventures, and we read that Appollo also loved Marpessa, the fair daughter of Egeus, and her father wished her to harken to the God, but her heart was devoted to another. The favored lover whose

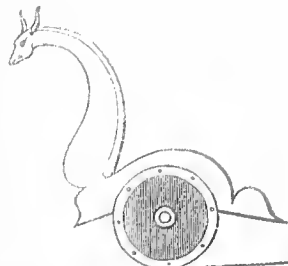
name was Idas having obtained a fleet chariot from Neptune carried her off. Appollo meeting the fugitives seized Marpessa. The dispute was then referred to Jupiter who allowed the maid to choose for herself, and she gave her hand to her mortal lover. This cut gives the reader an idea of the manner in which four horses abreast were attached to the war or fleet chariots. If it were necessary we might present the reader with many more illustrations of chariots from ancient antiquities, but as they all bear a strong resemblance to each other, the present will suffice to convey an idea in regard to their form and manner of use.

We pass to notice that by far the nearest approach to the ingenuity of contrivance of modern times, is to be seen in a drawing executed by Sir Wm. Sell from one of the time defying frescoes of Pompeii. It is of a wine cart or rather wagon, and though it aided the services of the inferior orders among the people, it displays a neatness and ingenuity in its construction far exceeding that of the cars and ornamental vehicles of the time, supposing they had equally faithful artistical chroniclers. The fore wheels are of equal size, (a desideratum long sought after for locomotive vehicles, and the contrivance which allowed them to turn with safety is simple and practicable, being an open arched space in the centre of the body. The group from which it is copied is classical and elegant. The figures of the peasants employed in emptying the skins in which the wine was contained are graceful, both in form and costume, the latter being the simple tunica. Sir Wm. Sell complains of the slovenly style in which the whole is painted. His copy suggests an exquisitely neat and finished original. Notwithstanding this little discrepancy, the details as to the principle of its construction may be trusted.

In the same work are two other designs. One represents one of the several chariots drawn by different animals, which decorate the tablinum of the Paristyle of the Dioscuri. It appears to be slovenly in its execution, and the details of its construction incomplete. There is an absence of elegance in its design. The angle supplying the place of a graceful curve which characterized the Greek chariots of earlier date. The other is from a design executed in stucco on a stone in the temple of Venus. The group entire is to represent Love in the act and position of driving two mules, though it appears to us that Love must have been somewhat deficient in her taste and fancy to have chosen these *contrary cattle* for such a carriage.

CAR FROM POMPEII.

The simplest of all forms that have made pretention to the name of chariot, is the *essedum* of the ancient Briton, referred to in Cæsar's Commentaries, (lib. 4, C. 29.) He there, in describing the manner in which our rude forefathers were wont to conduct themselves in battle, distinctly shows an obvious difference between the war chariot of the Briton and that of the Roman. The Britons, it appears, were accustomed to leave



their chariots and run out along a pole which was attached to it, from whence, or from the yoke, they engaged the enemy, and again return into the chariot when they saw proper. Its construction evidently must have been low in front, or a passage must have been secured when building it, allowing the warrior thus to leave and enter his chariot in front, differing essentially from those of other nations, which we have already represented.

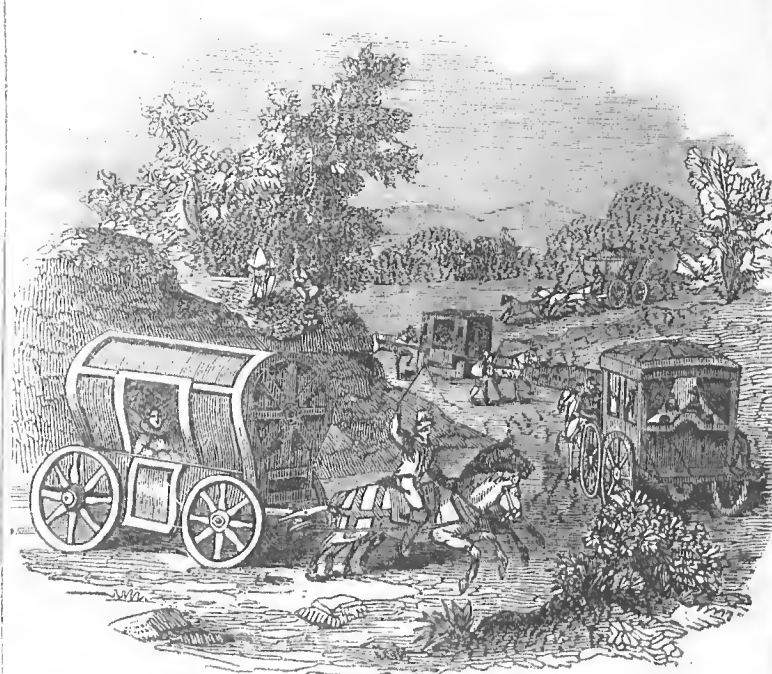
Strutt, in his *Manners and Customs of England*, makes mention of a kind of chariot in use among the Anglo-Saxons. He says it is supposed to have been derived from the Britons, and to be the old *essedum* referred to by Cæsar. Without meaning to insult the memory of our warlike ancestors, it has, nevertheless, a striking resemblance to the donkey carts used in many of the country villages of England. But it is somewhat wanting to the religion of history thus to profane what most probably was the moving platform from whence Bodicia with her wronged daughters harrangued the brave though undisciplined *Teutons*.

An evident improvement in invention was made by the Saxons. In Cotton Library there is a valuable Saxon illuminated manuscript, by some supposed to be that of *Uedua*. By others, the work of Elfricus Abbot, of Malmsburg. The subject is a comment on the books of Genesis and Exodus, with illustrative delineations. In one of these may be found the first approach to a slung carriage, and it may be interesting to the lovers of historical coincidence, that it is given in an illustration of the meeting of Joseph with Jacob, of that part of the Old Testament which first makes mention of vehicular locomotion or conveyance. The chariot in which Joseph is seated, is a kind of hammock, (most probably made of leather, which was much used by the Anglo-Saxons) suspended by iron hooks from a permanent frame work of wood. It moves upon four wheels, the construction of which is somewhat ambiguous, owing to decorative license having been taken with them by the artist. The father of Joseph is placed in a cart, which we doubt not, from its primi-

tive simplicity, is a faithful representative of those of the time. This proves the illuminator to have been true, both to his subject and the custom of the period in which he lived.

With the Normans came the horse litter, a native originally of Bithynia and from thence introduced into Rome, where it is still used by the Pope on state occasions, and also among the mountain passes of Sicily; also, in Spain and Portugal. Malmsbury records that the dead body of Ralfus was placed upon a *rheda caballaria*, a kind of horse litter. King John in his last illness, A. D. 1216 was conveyed from the Abbey of Swinestead, in a *lectica-equestra*. These for several succeeding reigns were the only carriages in use for persons of distinction. Froissart writes of Isabel II, wife of Richard II, as "*La jeune Roynne drangle terre en une litere moult riche qui estoit ardoise pour elle*." These litters were seldom used except on state occasions. When Margaret, daughter of Henry VII, went into Scotland, A. D. 1493, she is described as journeying on a *faire palfrey*, but after this was conveyed by two footmen. One very rich litter, borne by two fairy coursers very nobly dressed, in which litter the said Queen was borne in the entering of the towns of considerable note, or otherwise, to her good pleasure. Some idea may be had of the state and richness of these conveyances, from Hollingshead's description of that of Queen Catherine at her coronation. "Then came the Queen in a litter of white cloth of gold, not covered nor bailed, which was led by two palfreys, clad in white damask down to the ground, head and all, led by her footmen. Over her was borne a canopy of cloth of gold, with four gilt staves, and four silver bells. For the bearing of which canopy were appointed sixteen knights—four to bear it, one space on foot, and other four another space, &c." Long after the introduction of coaches the litter continued in use. In the frontispiece of Thomas Scott's *Vox Populi*, (1620) there is a representation of a litter carried by mules, and the mother of Henrietta, Queen of Charles I, entered London in a litter, having previously traveled from Warwick in a coach.

That litters were used to some extent for years after the introduction of the wheel carriage, we may safely infer, as we have access to various documents which fully substantiate the fact, and the one most reliable is a painting which was executed by an eminent artist in the 16th century, representing a road scene, in which is introduced a sketch of the different kinds of vehicles used at that time, of which the following is an engraving:



ROAD SCENE OF THE 16TH CENTURY FROM A PAINTING.

The feudal times were obviously unfavorable to the use of carriages; the only seat considered benefitting to a knight was his saddle; and the only place for a vassal at the stirrup of his liege lord. The knights bestrode their coursers, and fair dames gracefully reined up their richly caparisoned palfreys. In 1236 on the entrance of Frederick II into Padua, ladies highly born and sumptuously attired came forth to meet him on horses ornamented with trappings. But as progress was slowly advancing from its infancy, this state of things was to exist no longer, as we behold the more commodious, though less picturesque wheel carriage now taking the field, and making its bloodless revolution.

Italy, France, Spain and Germany take the lead of England, in their records, and contend with each other for the honor of the first introduction of carriages. The earliest records we have found is upon Berkman's authority. He states that when Charles of Anjou entered Naples (towards the end of the 13th century,) his Queen rode in a *caretta* the outside and inside of which was covered with sky blue velvet, interspersed with golden lillies.

That the example of this fair Queen was speedily followed in France (though most probably at an humble distance) may be inferred from the fact of an ordinance of Philip the fair being issued in 1294 (and which is still, according to Beckman, in preservation,) for suppressing luxury, and forbidding the use of cars, even to the citizen's wives, and two hundred and ninety-four years after this, we find the Duke Sulus, of Brunswick, publishing an order couched in very expressive terms, by which his vassals were forbidden to ride in carriages. This curious and highly interesting document is thus given by the historian above mentioned:

"As we know from ancient historians—from the annals of heroic, honorable and glorious achievements, and even by our own experience, that the respectable, steady, courageous, and spirited Germans were, heretofore, so much celebrated among all nations on account of the manly virtue, sincerity, boldness, honesty and resolution, that their assistance was courted in war, and that in particular the people of this land, by their discipline and intrepidity, both within and without the kingdom, acquired so much celebrity, that foreign nations really united with them. We have for some time past found with great pain and uneasiness, that their useful discipline and skill in riding in our electorate country and lordship have not only visibly declined, but have been almost lost, (and no doubt other electors and princes have experienced the same among their nobility,) and as the principal cause of this is, that our vassals, servants, and kinsmen without distinction, young and old, have dared to give themselves up to indolence and to riding in coaches, and that few of them provide themselves with well equipped riding horses, and with skilful, experienced servants and boys acquainted with the roads. Not being able to suffer any longer this neglect, and being desirous to revive the ancient Brunswick mode of riding, handed down and bequeathed to us by our forefathers, we hereby will and command that all and each of our before mentioned vassals, servants and kinsmen, of whatever rank or condition, shall always keep as many riding horses as they are obliged to serve us with by their fief or alliance, and shall have in their service able, experienced servants, acquainted with the roads, and that they shall have as in times of turbulence or to receive their fiefs or when on other occasions many horses as possible, with polished steel furniture, and with saddles proper for carrying the necessary arms and accoutrements, so that they may appear with them when necessity requires. We also will and command our before mentioned vassals, servants, and kinsmen to take notice, that when we order them to assemble either all together or in part, in times of turbulence, or to receive their fiefs, or when on other occasions they visit our court, they shall not travel or appear in coaches, but on their riding horses, &c., &c."

Philip II, Duke of Pomperania—Stettin, also reminded his vassals in 1608 that they ought not to make so much use of carriages as of horses. Notwithstanding, however, the lordly eminence from which the solemn command originated, and was sent forth, "thou shalt not use coaches," was of no avail, and coaches rolled on in triumph, and became common all over the country.

That these *Carettas* (before alluded to) were the same with the cars or chairs, and latterly the chariot, in form, though differing in adornment, there is little doubt, and although *caretta* and sky-blue velvet and golden lillies seem far more fitting to describe the car of Cinderella, or of some radiant genius in a fairy pageant, there is little difficulty in believing that all the above named vehicles had one universal family likeness, both in name and construction, to our common, broad-wheeled cart. In the *Anticennes Chroniques De Flanders*, (date 1347) a manuscript is beautifully preserved,—(a work of art it may be termed, from the brilliancy and delicacy of its finish,) it is an illustration of the flight of Emergard, wife of Salvard, Lord of Rousillon. The carriage in which she is seated is not only richly colored, but the details of its construction are accurately supplied. The outer edges of the wheels are colored grey to represent the tire of iron, and the horses are attached to the carriage by a similar method to the one now in use. The body of the cart or *chariotte*, is of carved wood, and the hangings of purple and crimson turned up in the centre. The lady Emergard is seated inside with an attendant behind and her fool in front. The machine is drawn by two horses, the charioteer sitting upon the left horse.

That England was not far behind in the possession of the chair, we have reliable testimony, and that of the most interesting kind. It is a specimen of vide Ellis' English poetry, entitled "The Squire of low Degree," supposed to be before the time of Chaucer. The following is a copy of the first part, which will amuse if not instruct the reader.

THE SQUIRE OF LOW DEGREE.

The royal sunlight flushed the room,
From stained windows streaming down,
To where, rayed round in golden gloom,
The old King sat and tried to frown.
Before him stood his daughter dear,
Her white hands folded on her breast,
And in her drooping eyes a tear,
The sign of love, and love's unrest:—
For she was grieved, as only maids can be,
That love, and lose like her, a squire of low degree!

"To-morrow we ride with all our train
To meet our cousin of Aquitain;
Be ready, daughter, to go with us there,
At the head of the train in a royal chair,
The chair shall be covered with velvet red,
With a fringed canopy overhead,
And curtains of damask, white and blue,
Figured with lillies, and silver dew,
Purple your robe, with ermine bands,
The finest fur of the northern lands;
Enamelled chains of rare device,
And your feather a bird of Paradise!
And what will you have for a dainty steed?
A Flandersmare of the royal breed?
An English blood? A jeunet of Spain?
Or a Barbary foal with a coal-black mane?
We still have the Soldan's harness, sweet!
The housings hung to the horse's feet;
The saddle-cloth is sown with moons,
And the bridle bells jingle the blithest tunes!
Or will you on a palfrey go,
An ambling palfrey, sure and slow,
That shakes its head, at every tread,
And tosses its heavy mane of snow;
Speak, my daughter! or will you stay,
And make it a merry hunting day?
And huntsmen shall be gathered at dawn,
The hounds led out upon the lawn:
When you amid your dames appear,
We'll spur our steeds and chase the deer;
Through meadows, through woods, away we go,
And we shout, while the merry bugles blow!
Or you shall lead us where you will;
Down by the river, or up the hill;
Speak, and the hawks shall wait you there,
And a noble quarry in the air.
And O! but you are a lady bright,
On a green hill's side in the morning light;
Your rosy cheek by the soft wind kissed,
And a dappled falcon on your wrist!
Come! and when we return again,
We'll give a feast to the merry men;
Banquet all in the open hall,
Under the antlers on the wall;
The trumpet shall wake its golden sound,
And the builer bear the dishes round;
Ribs of beef, so crisp and brown,
And a jug of Rhenish to wash it down;
Hares, and pheasants, and venison steaks,
And a boar with his skin peeling off in flakes;
And to crown the whole, a peacock dressed,
Complete, with its plumes and gilded crest!
For you and the maids a store of spice—
Cloves, and the seed of paradise;
Pots of ginger from over the seas;
Honeycombs from the English trees;
Plums, dim-seen, through their misty streaks,
And dishes of peaches with bloomy cheeks!
Pears that smack of the sunny South,
And cherries, red as a maiden's mouth!
Grapes in salvers, with sprigs of vino,
And wine, wine, a river of wine!
Ripe and old, brave and bold,
In cups of silver, and flagons of gold:
Red from Bordeaux, white from the Rhine,
Rumney and Malmsey, and Melespieu—
Every vintage of famous wine!"

"But I would rather have," said she,
"My loving squire of low degree;
Not a gaudy chair, nor days of chase,
Reward me for his absent face.
They do not bring him back again,
And all the Past, a double pain!
I see him now; he is my page,
A dreamy boy of tender age;
His hair is long and bright as gold,
And his eyes are depths untold,
No brother I, no sister he,
What can the children do but be
Brother and sister to each other,
Till he becomes my more than brother?
'Tis dangerous, believe me, Sire!
The growth of two young hearts like ours:
We grow like flowers, and bear desire,
The odor of the human flowers!"

PLATE IX.

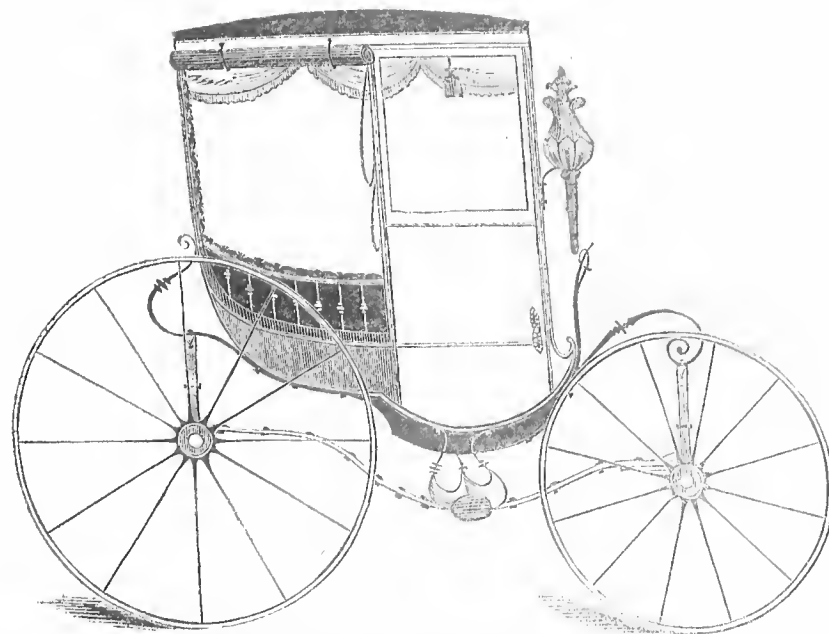


Fig. 23.—Physicians' Close Rockaway.

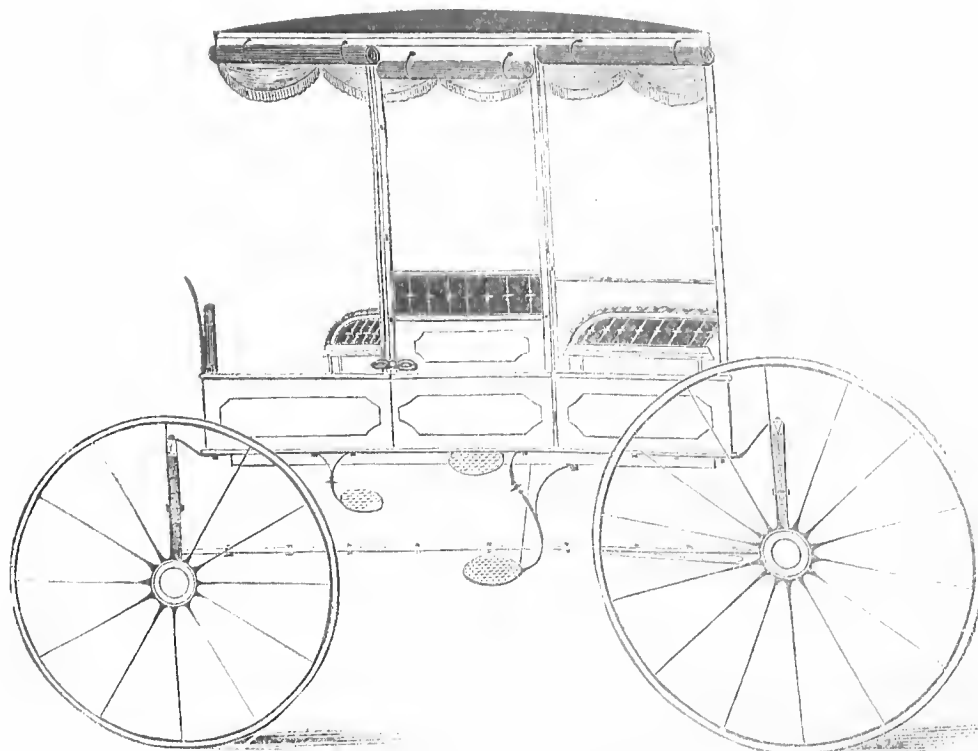


Fig. 24.—Jersey Wagon.

PLATE X.

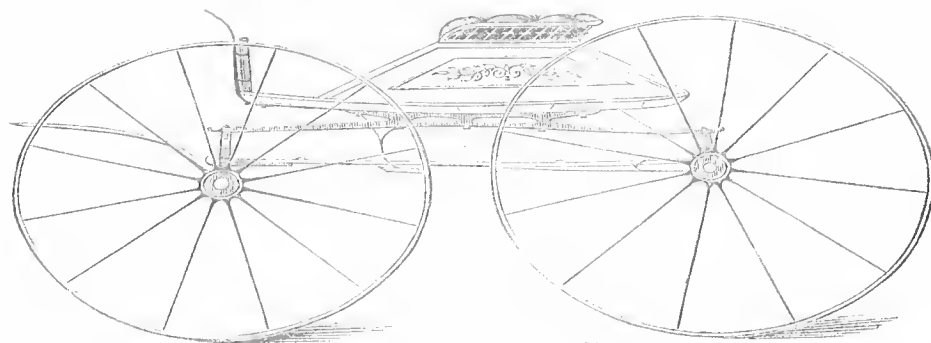


Fig. 25.—Trotting Buggy.

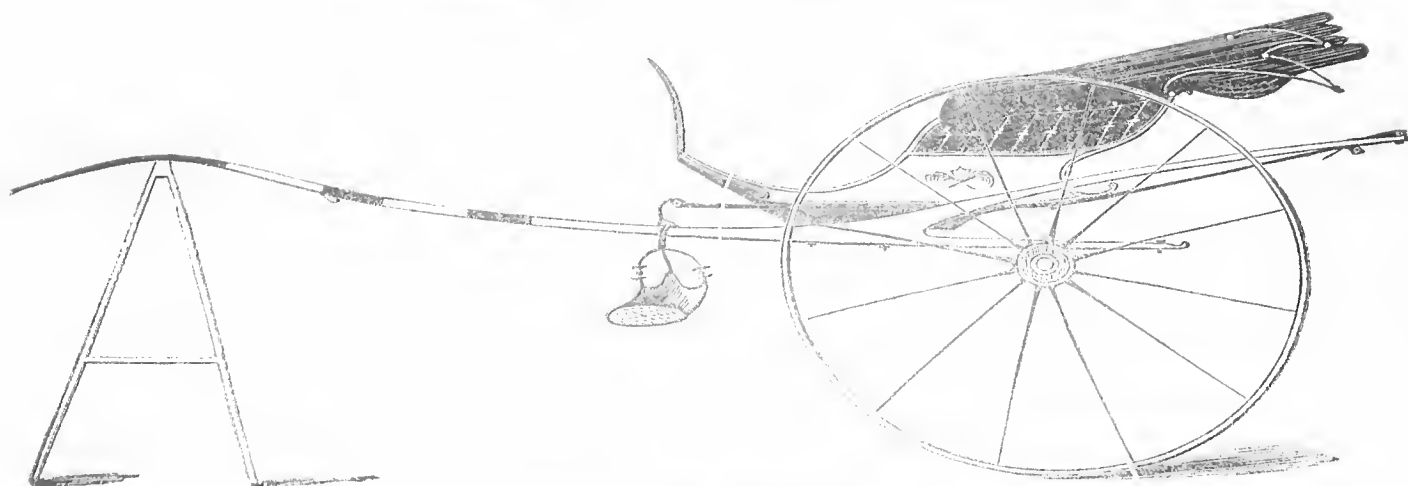


Fig. 26.—Boston Chaise.

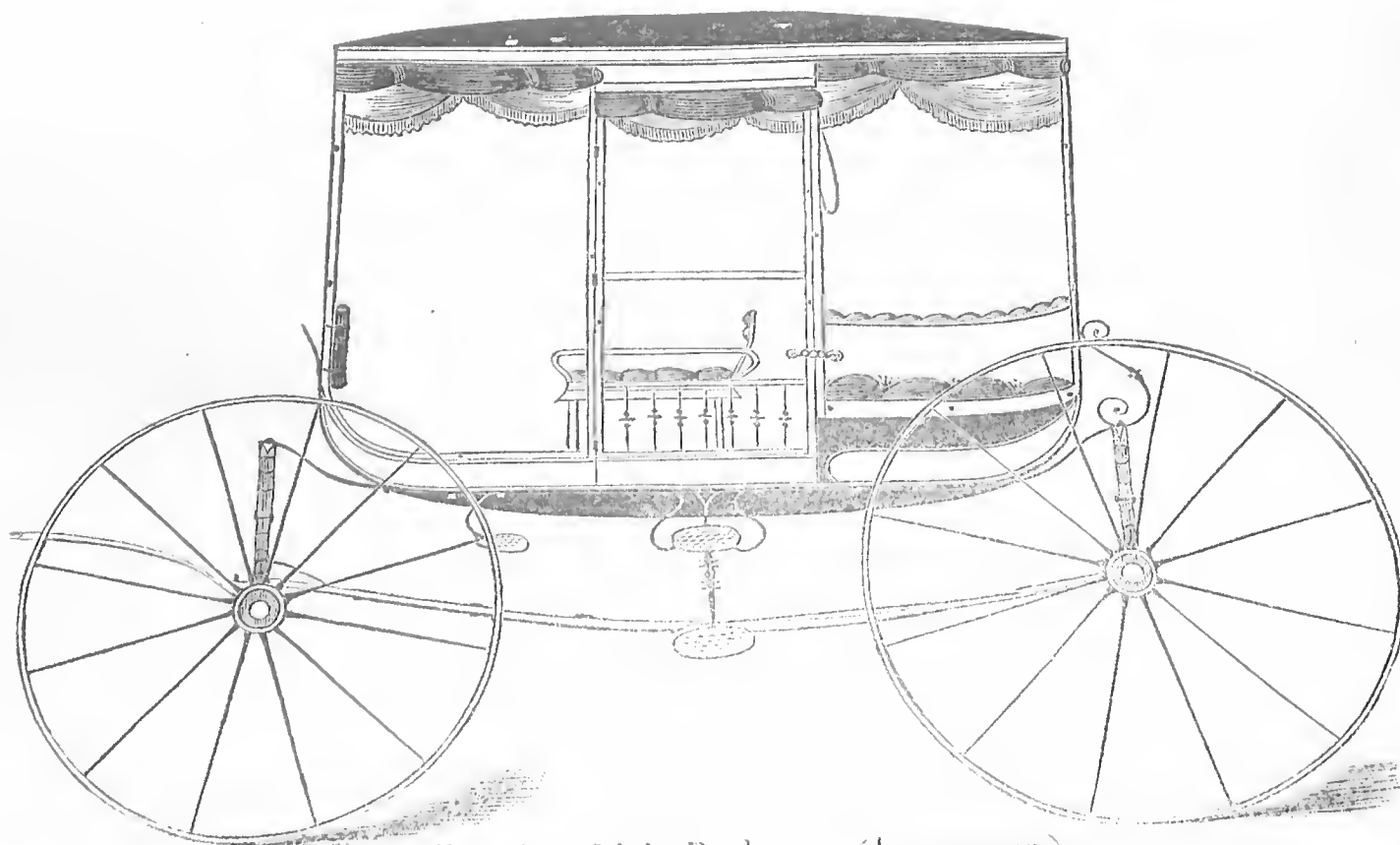


Fig. 27.—Light Rockaway, (4 passenger.)

THE COACH-MAKERS' MAGAZINE.

C. W. SALADEE,

EDITOR and PROPRIETOR.



VOLUME I.]

NEW YORK, MAY, 1855.

[NUMBER 5.]

TERMS:

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Standing advertisements payable within three months from the time of first insertion.

EXPLANATIONS OF THE DRAFTS.

FIG. 23.—PHYSICIAN'S CLOSE ROCKAWAY.

For the Coach-Makers' Magazine.

MR. EDITOR:—With your permission I will contribute to your valuable journal the enclosed draft for a Physician's Rockaway. I have just completed two of these carriages; the first was ordered by a physician from Louisiana. Dr. Mason, a practising gentleman in this city, seeing the carriage when completed, was so much delighted with the same, that he immediately ordered one like it, from which latter this draft was taken. Notwithstanding the drawing is made to a scale ($\frac{1}{2}$ inch) a brief explanation of its construction may not be amiss to many of your readers.

The body to the first of the two carriages referred to, was a panel job, but the other was a solid side. I prefer the latter, for the reason that it is so much less work, and answers every purpose fully as well. The back of the body is closed with a sliding glass. The front is also closed with a glass sash, which is applied as follows: A bar is framed across the body into the front pillars at S.; the space between this bar and the lower extremity, is filled up by the application of a permanent panel which is attached after the same manner as the panel in the back. The space from S. to the top is closed by a sash with one perpendicular division in the centre, thus making two panes of glass. This sash is connected to the bar extending across the top at D. by means of three hinges, and is so constructed that it can be raised against the ceiling of the top, and there fastened by appropriate catches.

Thus when the weather is clear, the medical gentleman raises the sash above described, lets drop the windows in the doors and back, rolls up the quarter curtain, and enjoys as complete a view of every passing object as though he were in the ordinary top buggy, and by the use of this carriage, he can defy the cold, wind, and rain. I will here remark, that the front sash should not be permitted to fill up the entire space, otherwise there would be no place for the lines to pass through into the body. I have allowed this sash to come down within 4 inches of the cross bar S., thus giving ample room for the lines.

I find the application of Everett's coupling to this carriage is very appropriate, and indeed I could not recommend it without the employment of the same. As you have remarked, there are some difficulties attending the use of this coupling, but when we take into consideration the evils attending the modern carriage without its application, we find that in two evils (choosing the least) the latter is the greatest. By the way will you or some of the craft say through the Magazine, what the mechanical imperfections are in the use of this coupling. I know but one; and that is the horizontal motion of the front extremity of the body. If judgment is exercised in its application, this is obviated. I insert the coupling pin nine inches back of the block, which gives sufficient sweep in turning. The reason why so many carriage makers have cursed Everett's coupling, is because they (using a Yankee phrase) run the thing into the ground, by giving the coupling from 18 to 24 inches sweep. Not at all strange that the front end of the body should work after the fashion of a sifter in a wind mill, (as one of my neighbors expressed it.) But to return to the draft under consideration. I would further remark, that a dash is applied. The only object in view is ornament, as without it the front of the body would look wanting and naked. The attachment of a fine pair of lamps adds materially to the external appearance of the carriage.

I am now making one after the same draft with pump handles, and hung up without perch, which I fancy will make one of the sauciest little vehicles imaginable. I mean to have it so arranged as to admit of a driver outside, by means of a moveable dickey seat. Should my present anticipation be fully realized, I may be induced to send you a sketch of the same. The carriage I sent to Louisiana I sold for \$375. The one for Dr. Mason \$300. Proportioned wheels and carriage parts No. 3.

M. F. L.

For Saladee's Magazine.

FIG. 24.—JERSEY WAGON.

MR. EDITOR:—Respected Sir—Presuming that a down easter will be as welcome to your columns as any other gent of the craft, I have taken the liberty of sending you for insertion the above draft. It is a plain and unpretending family carriage, such a design as will meet the

approbation of every purchaser who is a lover of modesty, neatness and simplicity, combined with durability and convenience.

The seats are moveable and can both be taken out if desired. The sides are taken from 3 in. poplar or white wood, moulded off as represented in the draft. The main panels are painted amber; the mouldings black, and the small centre panels light lake. The carriage is in every other particular as represented by the illustration. The prices of work being a useless item I am induced to withhold them.

Wheels and carriage parts No. 4. D. D.

For the Coach-Makers' Magazine.

FIG. 25.—TROTTER BUGGY.

MR. EDITOR:—With your permission I shall be extremely happy to represent through the columns of your valuable journal a style of buggy manufactured in portions of the sunny south. Not that it is anything new to the brethren in the north, as the draft, I believe, has its origin in Philadelphia. But as it is a style of vehicle which has not as yet been represented in the Magazine, and one which I have reason to believe will in part be entirely new to many of the craft south and west, I am prompted to offer it for publication, and should it not be classed with the documents "refused," give it a corner in some one of the forth coming numbers.

EXPLANATION OF BUGGY.

Under this head I need not tax the patience of the reader, as the drawing being made to the customary scale, I have only to remark, that the side springs (or rather bars) composed of white hickory has each extremity resting upon the ends of a half elliptic spring. The side elevation of the body will impart a correct idea of its general construction. The leather boot with stamped figures is very appropriate for this class of work. However, I prefer the solid side (wood) as I think a better finish can be attained by moulding, painting, &c., than can be had by the application of leather, and after having run a year, (at which time it should be repainted,) the body can be made to appear as new. But in case it has the leather boot, no matter how beautifully painted, it will retain the appearance of a second-hand buggy, on account of the shaggy appearance of the boot, which is the natural result of one year's wear. This vehicle is universally admired as a light sporting buggy.

D. D. D.

For Saladee's Magazine.

FIG. 26.—BOSTON CHAISE.

MR. EDITOR:—Have the kindness to open the windows of your imagination, and take a momentary peep at the Yankee lads and lasses of Vermont.—But I beg of you not to permit yourself to be so much captivated with the charming appearance of the latter, as to entirely forget taking a glance at the different kinds of vehicles

in which they ride to and fro before your delighted gaze.

I will not trouble you at present with asking your Honor to take special notice of every critter that runs on wheels in Yankee land, but I would most earnestly direct your attention to that two wheeled trap (the Boston chaise with pheton body) dashing along at a rate that none but men of pills (when on important business) can attain; and before it gets out of sight let us take a hasty sketch of it, and let the seven thousand readers of the Coach-makers' Magazine have a sight at the Yankee pill wagon.

O, now, you may laugh as much as you please, but I tell you in good down east earnest, that it's just a little the best concern for the man of physic to whirl and turn about in every nook and corner that ever has been employed by the gentlemen of said profession. For durability nothing is found to compete with it. For easy motion to the passenger, it has never been excelled, and no locomotive vehicle can be trotted out of any country that possesses less resistance to draft than the Boston chaise.

If physicians generally could conceive the ease of motion and of draft attending the use of this vehicle, it is a Yankee's notion that they would no longer be seen cramping round and about in those mushroom rockaways and low broad-bodied buggies which require a circle of about 600 feet to turn in. But, to put on the top sheaf, allow me to remark, it is not only a convenient carriage, but by the by, it is a fashionable one. I seen a few days ago while in New York City that they are employed extensively, so also in Boston.

There, now, you may shut down the window again, and attend to something else.

Yours, &c., YANKEE DAVE;
viz: D. L. S.

For Salvo's Magazine.

FIG. 27.—LIGHT ROCKAWAY.—4 PASSENGER.

Herewith I send you for insertion a draft of a light Rockaway (4 passenger) for either two or one horse. I am aware of the fact that there is almost an endless variety of models for this denomination of carriages, but the one before you I think differs in various points from them all; at least I have never seen any thing exactly like it before. Its being a plain carriage, I presume an explanation of its proportions is uncalled for, its being made to the correct scale (in. to the foot.) I will only state that the front seat is movable; can be shoved forward and back in the body, or taken out entirely. The back quarter which is now open, and through which the top of the cushion is represented, can be closed to good advantage, either with stamped, figured leather, or panel.

Wheels and carriage parts No. 4.

C. W. M.

The Coach-Makers' Magazine.

MAY, - - - - - 1855.

THE MECHANIC SHOULD BE MASTER OF HIS TRADE

Mr. Frost, author of the "Mechanic's Text Book," has appropriately remarked, that in order for the mechanic to become useful, respectable and happy, it is necessary that first of all, he become a thorough master of his trade.

Having made a liberal choice of that pursuit by which he is to gain his livelihood, it is a matter of the utmost importance that he should

devote the energies of his mind to the business unreservedly, until he has mastered all its principles and details. It is by this means only, that he can use it with ease and satisfaction as the instrument of success in the world. The incapable or half taught mechanic always works at a ruinous disadvantage. He can neither command the highest prices for the productions of his art, nor superintend with intelligence and authority the workmen under his care. He is in constant danger of failure in his business, or of abandoning it through sheer disgust, only to take up some other pursuit for which he is totally unfitted by education.

It is a laudable ambition, therefore, which makes him aspire to be first among his fellows. A master mechanic or no mechanic at all, should be his motto. In order to render himself a thorough proficient in his trade, the mechanic should serve out his complete apprenticeship. Justice to himself as well as to his master dictates this course. Nor is it less a matter of policy than of moral duty. Even if he should deem himself capable of undertaking the management of business for himself before he has half completed his apprenticeship, it is a much safer and wiser course to remain in subordinate capacity till he has attained the age of manhood, than to rush upon heavy duties and responsibilities of active life, before his judgment is matured, his understanding ripened, and his nerves hardened for the rough encounter of conflicting interests and unforeseen emergencies.

At the same time that we counsel the apprentice to serve out his whole time faithfully and with honor to himself and master, we would strenuously urge upon him the importance of devoting any leisure moments he may have at his command each day to the cultivation of his mind. The parent or guardian in becoming a party to indentures, should be careful to have a clause inserted, by which a certain portion of time shall be secured to the apprentice for mental cultivation, and when this is done the apprentice should regularly consecrate this time to its legitimate purpose. In our large cities facilities for this purpose are judiciously afforded by the beneficent provisions of Mechanics' Institutes, Lyceums and Libraries. But even in situations where such opportunities are not afforded, we know by many illustrious examples that knowledge may be pursued and attained under the most discouraging difficulties. Where that good seed, the love of science, has been once implanted, it will spring up and grow and flourish, though pelted by storms of adversity, and chilled by the coldness of neglect. It is this consideration which encourages the teacher, who has the future apprentice under his care, to instil into his opening mind the most liberal and exalted views of the real beauty, as well as utility of science and literature. But why, it may be inquired, should the mechanic want the love of science and literature? We answer that the

mechanic should learn to love these intellectual pursuits for two reasons. First, because he is a *mechanic*, and secondly because he is a *man*.

If the physician, the lawyer, the statesman and the divine, avail themselves of the assistance of science and literature in their several professions, the mechanic has still stronger inducements for doing the same thing, for to none of these professions are the results of science so directly applicable, and for none of them are the recreations of literature so appropriate or gratifying. By making himself master of those principles of science which are most intimately connected with his trade, the mechanic, while he is satisfying a liberal curiosity, may possibly be approaching some brilliant discovery, which will speedily conduct him to fortune and fame, and if the lighter reading generally termed literature, promises no such results, it affords him the most dignified and innocent means of amusement, and preserves the vigor and increases the brightness of his intellect. He should therefore learn to appreciate such pursuits, because they are fitting and proper to him as a mechanic. He may also claim them as his own upon the broad principle that wherever there is a human intellect to be cultivated, there is a natural and indefeasible right to the brightest degree of cultivation which it can attain.

We remark in the next place, that the mechanic in order to render himself a complete master of his trade, should possess himself of new discoveries in science, which are applicable to his purposes, and should actually apply them to the improvement of his trade. There never was a time since Lord Bacon first placed in the hands of philosophy the right instrument of investigation, when men of science were more actively and successfully engaged in developing the materials and processes directly applicable to the advancement of the mechanical arts than the present. The forest and the mountains, the mine and the river, the deep bosom of the ocean itself, all are literally ransacked by the ardent devotee of science, in pursuit of new substances, which may minister to the sustenance or pleasure of man or may open to the gaze of liberal curiosity, the wonders of creative power. The scientific traveler brings home the products of distant lands to be neutralized in his own country, and thus supply new materials for the useful arts. The mechanical philosopher is constantly adding to the number of known motive powers, the chemist is discovering new substances and making new developments and combinations of the powers of those already known, while the press by means of the art preservative of all arts, is bringing the result of all these labors and inquiries home to the bosoms and business of men.

At such a time it becomes not the mechanic to be an idle or regardless spectator of all this activity. In the leisure moments which by an ordinary arrangement of his labors every man

may redeem, he should direct his attention to the progress of discovery in chemistry, mechanical philosophy, and natural history, which have a direct bearing on his trade. He should attach himself to that Mechanics Institute or Lyceum which affords him the best means of improvement, by its lectures, experiments and library. He should cultivate the acquaintance of those scientific men who have the good sense to appreciate the society of intelligent, practical mechanics, and he should apply the result of his inquiries so far as it may be judiciously done, to the perfecting of his own manufactures. In recommending such a course to the young mechanic, we know that we are not urging upon him vain speculations in visionary schemes. That such a course is precisely the one best calculated to improve and develop the mechanical arts is clearly apparent whenever an exhibition of the products of American industry is opened by any one of the societies constituted and supported by mechanics for this very purpose. A single exhibition of the Franklin Institute establishes with more certainty than a whole volume or arguments, the soundness of that policy which leads the mechanic to devote his winter evenings to scientific pursuits, and to apply the result of his study to the improvement of his own trade.

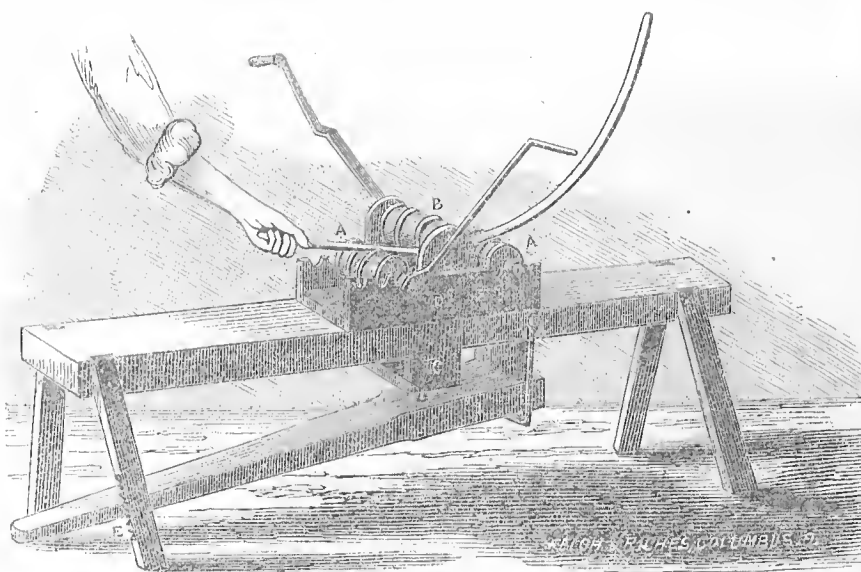
THE NORTHERN TRACK IN OHIO.

Several of our subscribers in northern Ohio have written us in regard to the many difficulties attending the use of the carriages and wagons made in that country, on account of their narrow track, (4 ft. 6 in.) and have requested us to make a passing notice of the same, calling the attention of the craft in that section to it, with the hope that they would all unite in adopting the wide track as made in nearly all the eastern, western and southern States, and to this end they propose calling a convention, to meet at the next State Fair. We hereby comply with the request of our friends, and would add that if such an arrangement is generally desired among the carriage and wagon makers in that part of the country, and some of them will signify their approval of such a course, by mail or otherwise, we will cheerfully make any notice of the same that may be called for.

PAINTING.—By an urgent request from a large number of our subscribers, we shall commence in the next No. of the Magazine to republish our treatise on coach painting, adding, however, many observations from different painters, who have contributed to the Magazine.

WORTHY OF IMITATION.—A worthy friend and patron, (Mr. J. Sitton, of Pendleton, S. C.,) in sending his order for six volumes of our Journal writes us as follows: "I expect to present most of the No.'s ordered to young men who have served out their apprenticeship in my establishment."

TIRE ROLLER.



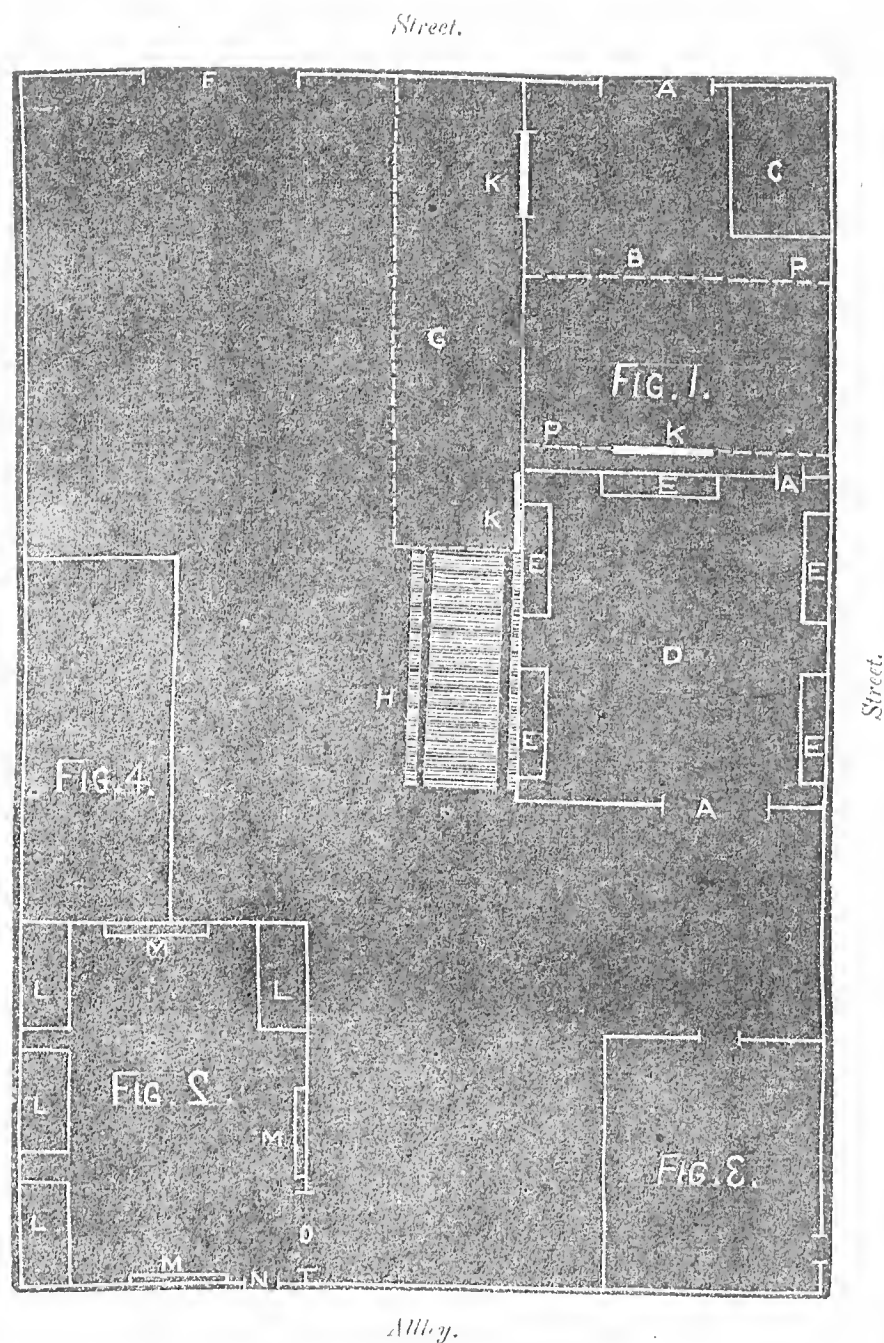
According to promise, we give room in this No. to the above engraving, which represents a very desirable implement for bending tire. This improvement in tire rollers is, we believe, original with our brother ship, Mr. D. Woodruff, of Salem, Ohio. A. A. are two rollers to which are attached the cranks illustrated. B. is the top roller which is connected to two perpendicular sliding iron bars C. C., which latter are secured by a cross piece under the bench, and which is connected to the lever, by which means roller B. is raised or lowered according to the circumference intended for the tire. The operation of this latter arrangement obviates one great imperfection attending the use of the ordinary tire rollers, which is the regulating of the top roller. This, in the old machines was accomplished by means of thumb screws in the journal at each extremity of the roller, thus in raising or lowering the same, one end is moved at a time, and the consequence is, that in nine cases out of ten, the roller when thus set, would not be strictly square, or perfectly horizontal. Therefore, the tire will be rolled more or less beveling, and consequently cannot be made to fit both edges of the rim to which it is applied. However, the illustration before us entirely obviates this difficulty, as the top roller being attached to the sliding bars C. C. and the two permanently connected at the bottom and attached to a lever. Both ends of the roller are made to raise precisely alike, and therefore roll the tire square to any desired circumference. The circle of the tire is regulated by the lever at E., where it is held by means of a notched iron plate, which is fastened to one of the uprights of the bench, and thus the machine is more readily adjusted to any desired circle than on the old plan. Another improvement in this machine over those preceding it, is the shoulders or collars turned on the rollers, which are so arranged as to be on a straight line. A space is left between the two collars sufficiently wide to admit of a 1½ inch tire, and thus, should the bars be

crooked previous to rolling, the latter process will straighten them, and in a manner more perfect than could possibly be accomplished by hand. We would suggest, however, that one of those collars be made moveable so as to admit of being shifted on the roller, to suit the width of the different sizes of tire, as in case those shoulders are ranged 1½ inches apart, and solid on the rollers, and we come to roll (for example) 1½ in. tire, which might need straightening, we think it might be found to vary according to the space left on the side of the tire and the opposite shoulder.

That great advantages are to be attained, and consequently additional profits accumulated in the very perplexing business of carriage manufacturing, by a proper and well regulated arrangement for the buildings in which the different branches are to be conducted, is a fact too obvious to admit of controversy. Therefore, when we are in the act of building a factory for this purpose, too much attention cannot be paid to the plan of its design, in order that we have it to embrace equal convenience in each and every apartment. The above engraving illustrates a plan for a coach factory, capable of working from 20 to 25 hands, which is from our worthy contributor Mr. J. D. FORBES, of Mass., and which we consider decidedly the best arranged factory for doing business to this extent, that we have ever seen. Why it is so in every point of view, is fully explained in the following description by its author:

Before giving a description or explanation of the annexed plan for a coach factory, allow me to remark in the first place, that my ideas of a proper arrangement for a coach factory, differ widely, no doubt, with many of my brother craftsmen. Some entertain the notion that in order to have the most convenient shop possible, it is necessary to have the entire business in operation under one roof.—Others again have no ideas at all in regard to the manner in which a shop should be arranged. They will purchase or hire a building which was never intended for such business, and will set to work in a speedy man-

FORILL'S DESIGN FOR A COACH FACTORY.



ner to make the same passable, or to suit their purpose, and in nine cases out of ten it will be seen that they labor under great disadvantages, owing to the badly regulated shops. This, however, cannot be avoided while the carriage-maker must hire his buildings. But when he comes to erect buildings of his own, and expressly for the carrying on of his trade, he may very easily put himself in possession of a factory (without greatly increasing the expense of building) that will prove appropriate to the business and possess every point of convenience desirable in the manufacturing of carriages. I would therefore most respectfully call the attention of that class of our fraternity who are about building, to the following explanation of my plan.

In selecting a location for a lot upon which the buildings are to be erected, I would recommend a corner lot, so as to have the main street front, street on the side, and alley at the back, thus having access to the lot from three sides, but in case that is not possible, my plan will be found to work remarkably well with but the

street front, and the alley back, as will presently be explained.

We will now suppose the black square to represent the lot upon which our buildings are situated. Fig. 1 therefore illustrates the ground plan of the main building. Fig. 2, the smith shop. Fig. 3 the lumber house, and Fig. 4 a temporary shed to shelter second-hand work, &c. The reader will now suppose himself standing at the back part of the lot between figs. 2 and 3, facing the front, and next bearing in mind that our plan is laid down to the scale one-sixteenth to the foot, he is prepared to hear an explanation of the lines before him. The dotted lines in fig. 1 have reference to the second story. However, we will first point out the arrangement of the lower story. A. A. A. represents the door which enters the building in front and back, also the door which opens out of the repository into the wood shop D. C. is the office, which is partitioned off in one corner of the repository. E. E. E. E. E. shows the position of the work benches in the wood shop, which

proves the latter capable of working 5 benches. Therefore, the space from the partition of the wood shop forward shows the size of the repository. We will now pass through the wide door A. at the back end of the wood shop, and ascend the gang way and steps H., to platform G. K. K. K. represents the doors in the second story, two going in from the platform G. You will now perceive that in the second story there are two partitions across the building. The first dotted line from the front encloses the trimming shop; the space between the two dotted lines shows the varnish room, and from the latter to the back end of the building represents the size of the paint room.

As before shown, there is but three doors in the top story, one from the platform into the trimming shop; the other from the platform into the paint room, and the third from the paint room into the varnish room. There is no door through the partition which divides the trimming shop and varnish room. Its being absolutely necessary that the latter should be kept perfectly tight and secure from all manner of dust, and as more or less dust is created in the trimming department, is the cause of omitting the door at this point; the black lines across the steps H. illustrate the track upon which carriages are run up to or down from the platform. The entire length of our building, according to the scale is 60 feet and 24 feet wide. the top story should be 10 feet high; the lower story 14 feet. We will now direct your attention to the smith shop Fig. 2. O. is the wide door which enters from the enclosure. N. is a narrow door which leads out into the alley. L. L. L. shows the arrangement of four forges. M. M. M. are the vice benches. Fig. 4 I have already remarked, is a shed joining the smith shop for shelter and various other purposes.

Fig. 3 is the lumber house. Do carriage makers generally know the advantage of this important building, which in a large business will in one year save lumber to the amount of the cost of its erection; as timber exposed to the weather is subject to great loss, and many imperfections, as experience has fully demonstrated. I have not illustrated the windows, as that is a matter which every carriage-maker fully understands; he of course knows the importance of abundance of light, and will therefore be governed accordingly. F. is a gate which leads out of the lot on front street; in case no street is on the side of the lot, another gate should be made through to the alley, so as to admit of driving a team through the lot with materials, &c. A little study of the plan itself, as illustrated, will further explain the design.

Fearing that I have already extended my article beyond a reasonable space, I must here drop my pen, leaving the reader to inspect the plan I offer him.

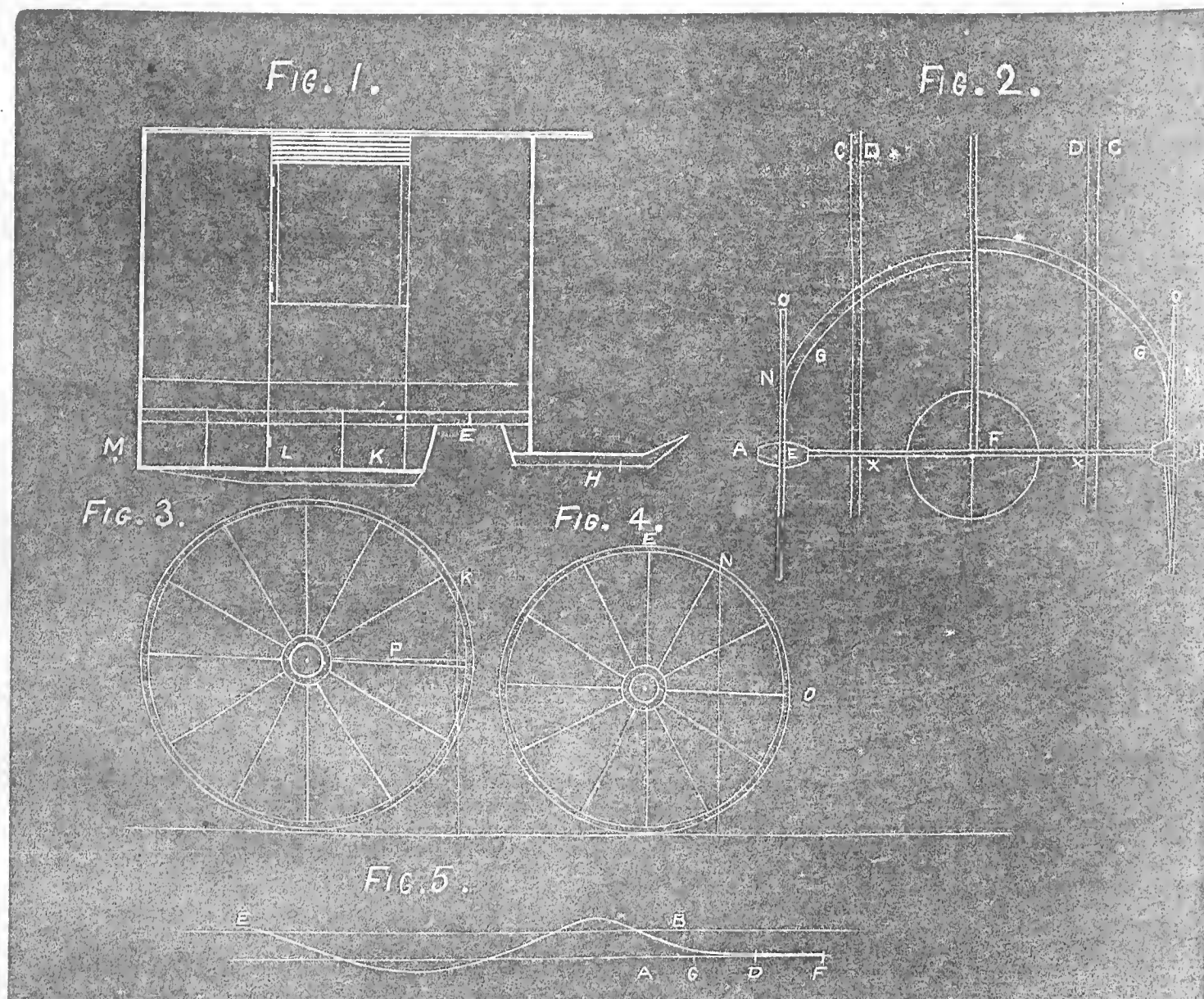
J. D. F.

THE COACH-MAKERS' GUIDE FOR 1854.—Of late we have received quite a number of letters from some of our subscribers, making inquiries concerning the "Coach Makers' Guide" for 1854, as to whether we can furnish it—price, content, &c. We would state that we have a few copies of the work on hand. The copy complete, consists of two large charts, each containing twenty-five drafts and a book of 200 pages accompanies them, giving explanations of the same, and treats upon various parts of the carriage. The regular price of subscription was \$5.00, but as it is somewhat out of season, we will furnish the volume complete, to those of our subscribers who wish it, by sending enclosed \$2.00.

Flowers' Contributions--No. 2.

A Rule to obtain the correct length of a Perch or Reach, also showing how the dish of the Wheel, the width of the Body, and the height it stands from the floor affects the length and circle.

PLATE B.



Without doubt some among the many readers of the Mag., have noticed the simplicity of the article that appeared in the preceding number, which showed the circuit of a carriage; and perhaps some either for curiosity or information have examined it, learnt the principle, and solved the questions there given for practice, which has fully satisfied them that a variation in either point there shown, will make a difference in the circuit of a carriage. If so, they have learned all I intended to show. But on becoming acquainted with these facts, they see the necessity of giving all the advantage to these points that can be gained without interfering with the body that is placed over them. I need not say, that these points are much neglected, for this fact has come under the observation of every observing mechanic in the business, that there are but few carriages when finished, but that a fault in one or the other of these points are plainly to be seen. In some cases the perch is too long, in others too short. But in either case if applied to a crooked body, it increases the difficulty that we wish to avoid. If it is the former, how it effects the point in

view, has been already shown in the preceding number. If the latter, a few moments reflection will bring to mind that there is a certain space required from the centre of the back axle to the front or outward part of the rim of the back wheel in order to allow the door to open without interfering with it. To gain this point with a short perch, the body has to be placed so far front on the carriage, that the front wheel will strike the body back of the point designed. Therefore the axle cannot angle or cramp to the degree it would, if the perch was of the proper length. The effect of this as well as the length has already been seen by the examples given for practice. The next question arises how is the correct length of the perch to be ascertained, so that the causes of these effects may be obviated? This I have set forth in the accompanying plate which I have endeavored to explain as explicitly as possible, and I hope to the comprehension of all who may feel interest enough to study it, but I will here state that the axles must be set to a given rule, which I shall present in my next.

EXPLANATION OF PLATE B.

Fig. 1, for example, represents the body we

wish to make a perch for. Fig. 2 shows the front wheels, axle, width of body and perch, the length not decided. C. C. shows the width of the body. A. a straight wheel. B. a dished one. You will please notice that this fig. represents two carriages, or rather one with a dished wheel and the other straight, and also the width of two bodies as shown by C. C. and D. D. Fig. 3 is the back wheel intended for this body, height four feet two inches. Fig. 4 the front wheel, 3 ft. 6 in. high.

Now that we have all that is necessary before us, we will therefore commence to get the length of the perch by first marking the point where we wish the wheel to strike on the body, which is shown by E. in Fig. 1. Next we will ascertain how high this point will stand from the floor, when the body is hung up. This can be done by adding together half the height of the front wheels, the height of the spring and head block, the thickness of the bar, the fifth wheel, and the distance that point E. raises above the point that will set on the spring bar. This done, deduct the drop of the front bed from it.

For instance, half the height of the wheels is	21 inches
The height of the spring	13 "
The thickness of the bar at centre	2 "
The height of head block	2 "
The thickness of the fifth wheel	1 inch
Raise of the body	6 inches

—	45 "
Deduction for the drop of the bed	3 "
—	42 "

By this we learn that point E. Fig. 1 will stand 42 inches from the floor. Next we must ascertain what point on the wheel will strike point E. Fig. 1 when the axle is angled. This can be done by placing a rule on the face of the wheel Fig. 4, and measure 42 inches from the floor up. This will give us point E. Fig. 4 directly on the top of the wheel. This shows us that this wheel when the axle is angled, will exactly turn under the body. Now the question arises, how far forward of point E. Fig. 1 is the spring bar or centre of axle to be placed, to make these two points meet. This question can be answered by consulting Fig. 2. Place one point of the compass on the centre of the axle E. and the other on the centre of the wheel at point E.; this being the same point as E. on Fig. 4 and strike the circle G. which shows us the circuit of the wheel when the axle is angled. This done, we must ascertain what part of this circuit would come in contact with point E. Fig. 1 if the body was placed on the carriage and over this circuit. This we can do by drawing line D. parallel with the perch, and half the width of the body from it. Now all that is necessary for us to do to ascertain the point on the body for the bar, is to measure from the centre of the axle X. to the point where line D. crosses circle G. and measure the same on the body from point E. forward, and we get point H. Fig. 1 for the centre of the head block or spring bar. Having decided on the point for the front end of the perch we will proceed to the back. First, we must know how high the bottom of the door K. will stand from the floor. This we get the same as we got point E. omitting the raise of the body which will bring point K. 34 inches from the floor. Now, we measure this on the face of the wheel Fig. 3 as shown by the dotted lines K., this being the point that the door will strike on the wheel when it is open, providing the centre of the wheel is carried far enough back to allow the door to open square. Now to ascertain the point for the centre of the wheel, (which should come directly under the spring bar,) we will measure from the centre of the wheel to line K. as shown by line P., which is twenty-three inches. Then measure this on the body from the door pillar L. back, and we get point M. Fig. 1 for the centre of the spring bar. This done we measure from H. to M., which gives the length of the perch from the centre of the head block to the centre of the back axle. Thus, the rule for obtaining the length of the perch, is, I trust, fully explained.

I will now endeavor to show you what effect the width of the body, the height it stands from the floor, and the dish of the wheels has on the length of the perch. We will first suppose the wheel to be dished as shown by B., and will strike the circle G. from it. This done, it shows us that the circle crosses line D. at a greater distance from the centre of the axle, X. than it did from the straight wheel, therefore it will be necessary to place point H. Fig. 1 at a greater distance from point E. in order to have the dished wheel to strike where the straight one did. Again, we

will suppose the body to be wider than is represented by D. D. and is as wide as shown by line C. C. Now, by measuring from the axle to the circle on these lines, we will find that in either case we will have to alter the point for the centre of the spring bar, in order to have the wheel strike where it did in the first place, providing the body stands the same height from the floor in each case. But should the body be of a different form, and point E. to stand only 39 inches from the floor instead of 42, this would alter the point on the wheel Fig. 4, that strikes point E. on the body, as is shown by the dotted line N., this point being the same height from the floor as E. on our supposed body. Now, in order to make E. and N. touch when the axle is angled, we will have to alter point H. again on the body. How to alter it we can see by measuring the dotted line N. Fig. 4 to the outward point of the rim O. Then measure the same on the wheel A. Fig. 2, measuring from O. to N., and strike the circle from it. This circle shows that point H. must be placed farther front which makes the perch longer. These illustrations will show you the necessity of taking these points into consideration previous to deciding on the length of a perch. You will see that the points on wheel Fig. 4 are lettered to correspond with the same on wheel A. Fig. 2. For instance, E. is the top of each wheel and O. is the centre of their height.

To complete the above, it is necessary to introduce a rule to lay out the perch so that the fifth wheel will be level, which is shown by Fig. 5. First ascertain the difference there will be in the height of the front and back end of the perch, when the carriage is on the wheels. This can be done by ascertaining the difference there is in the height of the wheels, and in the raise and drop of the front and back axle bed; we will say, for example, five inches, and commence by drawing two parallel lines A. B., five inches from each other. Next mark the point for the centre of the head block, and back axle bed. The head block on line A. and the bed on line B. as shown by C. and D. Now mark the size of the fifth wheel as shown by E. and G. and proceed to shape the perch, allowing it to raise $\frac{3}{4}$ in. or the thickness of the perch plate above point G. Shape the balance of the perch to suit the body, but keep the ends on the lines as shown. Work from, and shape the head block even with the bottom D.

E. J. F.

[Continued from Page 40.]

For Salade's Magazine.

IRON AND STEEL.

QUESTIONS WITH ANSWERS.

Why is iron better cast perpendicularly than horizontally?

Because of the pressure of the upright column which renders the iron much less liable to air-bubbles and imperfections of that kind which defeat the skill and calculations of the machinist. If this upright pressure be increased by a weight of extraneous metal, the casting is still more likely to be sound.

Why does a rod of wrought iron if plunged into cast iron when in fusion, become steel?

Because the iron absorbs part of the carbon. What is called case-hardening, is a conversion of the surface of iron into steel.

Why is the process by which iron is converted into steel, called cementation?

Because it consists in heating bars of iron in contact with charcoal; it absorbs carbon and increases in weight at the same time acquiring a blistered surface. This when drawn down into

smaller bars and beaten, forms tilted steel, and this broken up, heated, welded, and again drawn out into bars, forms shear steel.

In this process it has been commonly considered that the carbon combines mechanically with the iron. Our chemists, however, have long been of opinion, that it is a chemical combination that takes place by the gradual absorption of carbon in the gaseous state, by iron. This fact has been proved by Mr. Charles Mackintosh, of Crossbasket, Lanark, who has taken out a patent for preparing steel by subjecting the iron to a stream of carbonated hydrogen gas, evolved from coal under distillation. This iron is enclosed in a pot or crucible in the furnace, and when arrived at the proper heat, a stream of gas is directed by a pipe into the crucible, which has another aperture to allow that part of the gas to escape which has not been taken up by the metal. Steel, in ingots is porous; but to confer solidity, it is hammered, tilted and rolled. At Athercliffe near Sheffield, are extensive works for this purpose. Here, by the power of water-wheels fifteen feet in diameter, hammers are worked, weighing from 3 to 4½ cwt., and strike at 10 or 12 inches fall from 100 to 220 times in a minute. The ingots at a strong red heat are exposed to the action of these hammers, and the metals condensed into bars, which are next submitted at the same degree of heat to a tilting hammer, which gives 300 strokes in a minute. Lastly they are rolled or flattened into sheets, and drawn into lengths. Six tons a week are hammered down by one hammer, about three tons are tilted and twenty-four tons can be rolled, working night and day by relays of hands. The making of steel is a British manufacture, scarcely sixty years old. Previously, it came from Austria and Syria, and was costly and little used. It is now, however, heated, welded, cut and moulded in this country with nearly the same facilities by an ordinary carpenter.

Why does a drop of nitric acid let fall upon steel occasion a black spot?

Because the iron is dissolved and the carbon thereby exposed to view.

Why is steel tempered?

Because when steel is heated to a cherry-red color, and then plunged into cold water, it becomes so extremely hard and brittle, as to be unfit for almost any practical purpose, and tempering reduces it from this extreme hardness, by heating it to a certain point or temperature. The polishing of steel is not executed in the same manner as that of the softer metals—the steel is not polished (nor indeed can be,) until it has been hardened, and the harder it is, the more brilliant will be the polish.

Why are various colors produced on heated steel?

Because of the oxidation which takes place, as it is proven from the circumstance that when steel is heated and suffered to cool under mercury or oil, none of those colors appear, nor do they when it is heated in hydrogen or nitrogen.

Why is it customary to judge of the temperature of steel by its colors?

Because of the surface being a little brightened, exhibits, when heated, a variety of colors which constantly change as the temperature increases. Thus when steel is placed in a bath heated to 600, the first change is at about 430 which is very faint; at 460 the color is straw, becoming deeper as the temperature is increased. At 500 the color is brown; this is followed by a red tinge with streaks of purple, and at nearly 600 it becomes blue.

The degrees at which the different colors are produced, being thus known, the workman has

only to heat the bath with its contents, up to the required point. For example, suppose the blade of a knife (or a hundred of them) are to be tempered; they are suffered to remain in the bath until the thermometer rises to 460 and no longer, that being the heat at which the knife (supposing it to be made of the best English steel) will be sufficiently tempered.

Why is cast steel so called?

Because it is prepared by fusing blistered steel with a flux composed of carbonaceous and vitrifiable ingredients, casting it into ingots, and afterwards by gently heating and careful hammering giving it the form of bars.

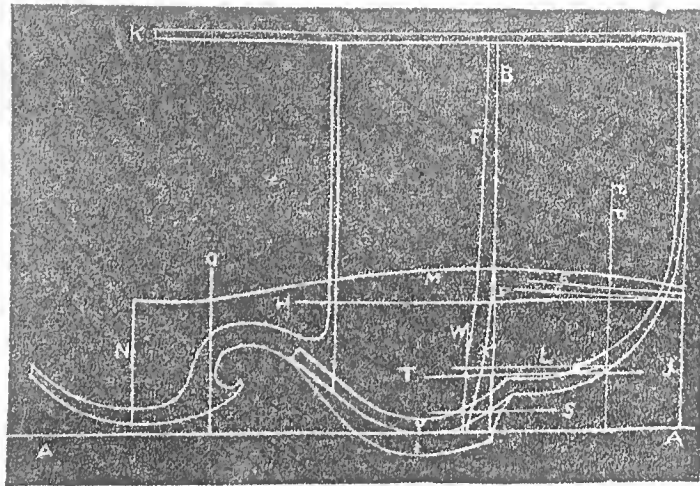
Why is the Peruvian steel so called?

Because it is an alloy of steel with certain portions of other metals from Peru. It is technically speaking *sadler*, not so easy to work as other steel, and yet much harder and tougher than any other. J. E. M.

THE FRENCH RULE.

[CONTINUED.]

Presuming that our previous observations under this head have thus far been fully and readily comprehended by the careful reader, we are prompted to resume the task, and advance one step farther. The object of the present article, therefore, will be to illustrate the manner of obtaining by the application of this rule the proper length, from shoulder to shoulder, of the seat rails and all other cross bars employed in constructing the body; also the location of the seat, &c., &c., for the explanation of which we again introduce example 5.



EXAMPLE 5.

You will now measure the height of the back seat and draw line L. parallel with base line A. A. Therefore, where line L. crosses line W. on hinge pillar, shows the exact point where the top edge of the seat rail will come (in the hinge pillars.) Having now ascertained the point where the seat rail is to be inserted into the perpendicular hinge pillar, it next becomes our duty to ascertain the length of the seat rail from shoulder to shoulder, in order that we may proceed to make the tenons on each extremity of the same. This dimension is obtained in the following simple manner. First, ascertain the width of the space between lines B. and W., the number of inches it measures you will double or mul-

tiply by 2, which gives this space on each side of the body. This measurement, then, you will subtract from the extreme width of the body across at the point where the seat rail is intended to be located, the result of which calculation will give the required length of the seat rail between shoulders correctly. To illustrate, let us suppose, for example, that the extreme width of the body (from outside to outside, at the point where the hinge pillars are located,) to be 48 inches, and that the space between lines B. and W. to be 4 inches; allowing this on both sides, would make 8 inches, which let us subtract from 48 inches; this calculation, therefore, gives us the exact length of seat rail from shoulder to shoulder, which proves it to be 40 inches. Remembering that line W. is the inside of the hinge pillar the reader cannot fail to see the principle we here present. The front seat rails will be shorter, owing to the contraction of the body. However, the same principle is observed in getting their lengths, always bearing in mind that subtracting the space, (doubled or multiplied by 2) between any perpendicular line and the inside of the pillar in which it (the seat rail) is to be inserted from the extreme width of the body at that point, or where the rail is to be located, in all cases gives the proper length. To obtain the length of the cross bars which connect the two bottom sides or sills together, you have only to measure from base line A. A. to line H.,

(which latter remember is the inside of the bottom side or sill.) This measurement is also multiplied by 2 (as the reader will recollect that the base line is the centre of the body from a top view,) which gives the exact length of the bars between shoulders. In like manner by measuring from base line to the inside of the sill or bottom side, the required length of all the bars employed in the bottom of the body is properly obtained,

be the same contracted or square.

Next permit us to show you the rule by which the back corner pillar is planted in the bottom side, so as to carry out the swell of the body from one end to the other, or in harmony with the shape of the kant rail or top tie. In order to accomplish this, you have only to draw perpendicular line P. P. at the back extremity of the bottom side, and from the latter point draw horizontal line T. By the aid of these two lines we ascertain how much the body throws under on the side, at the point where T. and P. P. connect, and by the same lines we ascertain the proper extent to which the corner pillar should be thrown round towards the back end of the body. This you proceed to do in the following

manner: Having drawn the line last described, you will take up your compasses, and permit one point to set on line B. where line T. crosses, and also allow the other point to rest on the latter, where line X. crosses it. This, then, shows you how much the body throws under where lines P. P. and T. connect. With your compasses set as described, you will next cause one point to rest on line P. P., where line M. crosses it, and with the other point make a mark on line P. P. towards the base line as represented by line E where line P. P. crosses. This pillar at the top of course need not be so heavy (or thick) as at the bottom; therefore whatever is the desired thickness of the pillar at the top end, (say 1½ in.) you will next space that measurement from line M on line J and draw line E. This latter line represents the outside of the corner pillar where it is inserted into the bottom side. Therefore, the thickness of the pillar at this point must be shaped off inside of line E on line P. P., which gives the inside of the corner pillar at bottom, and gives us the exact point where the inside of the back pillar will be located in the bottom side. C therefore to the left of line P. P. shows you the position to give the slot or mortice in the bottom side for the reception of the corner pillar. Fearing some of our students may be somewhat absent minded, we will again repeat that we are showing this latter principle from a top view. Y. represents a side view of the back bottom side or sill, and from H. to line P. P. represents the length of the same from a top view; therefore, D. E. and C. are lines made on the top of the bottom side, which illustrates the manner of obtaining the proper location of the hinge and back corner pillars. One thing more, and we will leave you for the present to solve the subject thus far advanced.

The bevel on the side of the back corner pillar is obtained by laying the back edge of the bevel on line J. and shift the blade so as to range with line M. Lines C. and J. will in like manner give the bevel of those pillars across the back of the body. Line J. from base line to line M. gives one-half the length of the top rail across the body. The points where the pillars are inserted into the kant rail is obtained by laying the latter upon the draft board and marking off the mortices according to the lines drawn over the board to represent the pillars.

[TO BE CONTINUED.]

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ANSWER TO CORRESPONDENTS.

M. M., of N. C.—The drawing for your tenoning machine is received. We think it is capable of performing all you claim for it. Still, we are of the opinion that those working with the plane are preferable, as they make a smoother tenon than can be made with saws, and, as another advantage, they do not take up one-fourth the room which yours would require; however, we agree with you in the assertion, that yours will do the work more speedy. It is impossible for us to comply with your various propositions, as your articles are not of sufficient interest to justify their publication.

T. L. N., of O. W.—We cannot answer for Mr. M., but so far as we are acquainted with the operations of his proposed improvements in buggy shafts and their connection to the axle, &c., it is in part on the same principle as that of yours. When he exhibited his model at our office, three weeks since, he stated that he had already made application for letters patent. Whether such is the case or not, we have not the means of knowing.

J. R. G., of Ohio.—Your draft for sliding seat extension top is before us. The design is good, but the drawing being so imperfectly executed, will require it to be redrawn before it can be engraved, and while it is undergoing the latter process, we shall take the liberty of making some alterations, and give it room in due time.

S. B., of N. Y.—There is no such firm in Philadelphia engaged in carriage making, or ever has been. One of the gentlemen you refer to, (Mr. Sam'l D—) is now engaged in the business at Indianapolis; (so we are informed.) A letter addressed to P. P. Sandmire, Attorney at Law, would be answered with promptness, giving you all the particulars.

M. T., of Ala.—The Spring Perches you allude to you can obtain in Bridgeport, Conn., where they are manufactured. We do not know the price. Address James Brewster & Co., of that city, who can give you further information.

C. W. T., of Va.—We have never seen what you term enamel leather lace with stamped figure, for sale at any of the coach trimming establishments in New York or any where else.

J. D. L., of Mo.—The English Varnish can be had at the house of Wilson & Hayden, Cincinnati, O., and more than probable the Queen City Varnish Company can also furnish it, (of the same city.)

J. S., of Mich.—Have the kindness to send us a sketch of your newly discovered principle, which will accomplish the same object of Everett's Patent, and at the same time obviate the evils attending the use of the latter. If it prove to be what you represent it in your communication now before us, we have only to say, it will far surpass any improvement ever discovered in the construction of carriages.

C. N., of N. J.—We cannot devote so much space as your article demands, to any one communication, and as the subject is interesting only to a certain class of our readers, we must decline publishing it.

S. S. V., of Ohio.—We have no such engraving as that you desire to have, but if you will send drawings we can get them up for you, by the time you need them.

S. S., of Ia.—We have not as yet had the pleasure of inspecting the metallic hub of Messrs. Silsby, Raec & Holly, and therefore cannot give you the desired information.

P. P. O., of N. J.—You ask what is our opinion in regard to the durability of a wheel with sawed rims and one with bent rims, &c., and then complete your communication by saying that you are sure the former is best for various reasons. Now if you are sure of

this, why ask the opinion of another in regard to it? If we are sure or know any particular theory to be correct, touching the occupation we profess, we at once set about striving to convince our brethren of that fact, without stopping to ask the opinion of others, for those who might disagree with us, would of course be wrong, and those who embraced the same views could not by any means make our convictions more decided. Therefore since you are sure that a piece of wood cut across the grain is stronger than the same wood worked with the grain, will you please present the light which will substantiate the assertion. The editor and a host of his readers it appears are laboring under a serious mistake in regard to this fellow business. Therefore, the sooner you set us right the better.

C. W. S., of Pa.—You need feel no delicacy in sending your articles for publication. If the ideas they contain are good, it matters not to us how poor the style of composition, the correction of the latter is a duty the editor has to perform in nearly all communications sent for insertion, and yours of course would be treated in like manner, if the ideas you convey are considered worthy of notice.

CAUTION.—Just as we are going to press with this No., we have received a letter from Mr. GUSTAVUS HUBSKENRHT, (coach-maker) of New Haven, Conn., who sent an article for publication in which he cautions the coach making public against the fraud (as he terms it,) which the Everetts are now practicing, in the sale of the carriage coupling which bears that name; stating that he is the original inventor and patentee of the same. We omit his communication in this number for the want of evidence to substantiate the assertion. On the 25th of the present month we shall be in Washington, where and when we will examine his claims, and in our next issue we will endeavor to set the matter right. However, under the present state of affairs, we would advise all our patrons who have thought of making a purchase of this right, to defer doing so, till they hear further in regard to the matter.

WHERE CAN WE GET A GOOD BODY MAKER?—This is a question which has been put to us many times within the last three weeks. At the present writing we are prepared to answer the inquiry. A brother chap with whom we are personally acquainted, now a resident of Conn., (and who we can recommend as a scientific workman on bodies) is desirous of obtaining a situation West or South, where he can have constant employment either as foreman or as a piece workman on bodies. This gentleman is a thorough bred coach-maker, in the fullest sense of the term; he is a man of middle age, and has a small family, and as to his character the best of reference can be given. Should any of the factories in the Southern or Western States desire a man of this stamp, by addressing a line to us a correspondence will immediately be established between them, when further particulars can be made known to both parties. There is no workman among our large circle of acquaintances who we could recommend more highly, as a No. 1 foreman or body maker, than this gentleman.

THE DRAWINGS.

In the Drawing Department of the present No., we have the pleasure of presenting our numerous readers with a variety of style, which we have reason to hope, will meet the approbation of the craft generally. They are the productions of that class of patrons who seem to take a lively interest in the onward progress of our journal, and that branch of the mechanic arts to which it is devoted; and we are happy to notice that the number of contributors and circle of correspondents are widening daily. And while we have the helping hands of such correspondents as now grace the pages of our journal, we shall never lack the facilities of making it an ever welcome visitor to the house or shop of the coach-maker. And while we return our compliments to our worthy contributors, we would not fail at the same time to court the continuance of their various productions, and all others who are capable of imitating their example, shall receive a hearty welcome to the pages of the Magazine.

The Editor will visit his friends in Toronto, Montreal and Quebec, (Canada) in the latter part of the present month, when he will be happy to make the acquaintance of as large a circle of the craft as the time he may sojourn will permit.

PARIS UPON WHEELS.

BY A TRAVELLER.

The population of Paris living upon wheels may be divided into three distinct classes. In the first place there are the cabmen who drive the vehicles which ply for hire from their public stands near the kerb stone. These are drivers of voitures de place. In the second place there are the drivers of the more aristocratic broughams which wait for their fare under private gateways, and which have all the appearance without entailing the expenses of a private carriage. These are drivers of voitures de remise. In the third place there are drivers and conductors of omnibusses.

Of this population upon wheels I propose to give some curious details which are not familiar, I believe, to American readers. I shall begin with the hackney cabmen, their vehicles and regulations.

The hackney cabs of Paris are nineteen hundred and ninety-nine in number. Of these not more than sixteen hundred and forty-six are in constant use. They are distributed in seventy-four stands. They are the property of seven or eight companies or administrations, whose head quarters are the Barriere de Combat, the Barriere de la Vilette, and the Barriere du Maine. Each two-horse cab has a reserve of two horses; each one-horse cab gives employment to two quadrupeds. It is estimated that the hackney cab horses of Paris are six thousand strong. They are generally worn out cavalry steeds, bought for one hundred and fifty to two hundred francs. The fares of these cabs vary from one franc to two sous to one franc and a half the journey, between any two points within the Barrieres. To these fares should be added the pourboire, which the traveler is expected to give to the cabman. This pourboire system may be noticed as the worst feature of any system of service in Paris.

A lady orders a cab to be sent home—the boy who carries it begs a *pourboire*; a pastrycook sends a tart for dinner; invariably his smart apprentice asks for a few sous; and very sulkily the shoe-maker's lad turns from your apartment should you fail to reward him, for carrying his master's goods, with a trifling gratuity. But the Paris cabman, particularly, may be remarked for his rapacity in the matter of *pourboires*.

The aspirant for the honors and gains of a cabman's seat in Paris must serve an apprenticeship. He is compelled by the police regulations of the capital to spend a month upon each coach-box with a man who knows the streets well. Having done this, he must present himself at the Prefecture of Police for examination. He is required to know the byways of Paris thoroughly. Should this knowledge fail him he is not allowed the opportunity of conducting the people from the Louvre to the Madeleine by the way of the Quai Voltaire. But having passed his examination he has not won his seat. Before he can get even a tumble down cabriolet mildred, he must deposit one hundred francs as guarantee with his masters; and he must be prepared with a second hundred francs to be invested in the purchase of his livery. This livery generally consists of a black glazed hat, bound with a gay ribbon; a bright blue frock coat, a scarlet waistcoat, and blue trousers. Thus equipped, he mounts the cab box in the morning, and departs for his appointed cab stand, there to wait the nod of the passers by. His pay is three francs a day, and he is supposed to carry home all he gains. In addition to his salary he is allowed to pester his customers for *pourboires*; and it is estimated that these contributions usually raise his daily earnings to five francs. Whether he occasionally puts a fare into his own pocket is a question which I leave to his own conscience. It is certain that he is narrowly watched, that the way to stolen wealth is difficult; since each stand has its appointed chef and under-chef, who are charged, by the police, with the duty of recording the departure and arrival of every cab upon the stand; and, as empty cabs are not allowed to linger, or as the Parisians have it, "*maraud*," about the streets, but must proceed direct to the nearest stand when they have discharged their fare, the difficulty is obvious, especially as *marauding* entails a fine of fifteen francs in each instance. The chef may be noticed ensconced in a little box about the size of a turnpike house, near every stand. From his little window he notices the arrivals and departures; and by his clock passengers are able to see the time at which they take a cab, should they wish to hire it by the hour. These chefs and under-chefs are paid by the police—the former receiving between eight hundred and one thousand francs a year; and the latter thirty sous a day. The under-chef makes up his income by looking after the interests of the cabmen while they are amusing themselves in the nearest wine shop; for which duty he receives occasional *pourboires*.

The cabman of Paris is severely watched by the police; and he is generally a surly fellow, upon whom slight punishment would have little effect. He is certainly either a Norman or a Savoyard, just as certainly as the water-carrier is an Auvergnat. For the first complaint made against him of extortion or impertinence he is fined, and his badge is taken from him for four days. The repetition of misconduct speedily entails dismissal from the cab-box altogether. On the other hand, the police reward honest cabmen who resist temptation, and carry to the prefecture goods or money they may find in their vehicles. The names of these honest men are placarded public-

ly upon all the cab-stand boxes for the admiration of the passers by. This honor is likely to stimulate the men to do their duty; to reward also is the duty of those who are bound to punish. In eighteen hundred and fifty-three, thus stimulated, the cabmen of Paris carried, in bank notes and coin, no less a sum than two hundred and eighty-eight thousand and sixty francs to the Prefecture.

The common cabs and cabriolets of Paris are surpassed in numbers and in the elegance of their appointments by those well known vehicles in which sly lovers repair to the Bois de Boulogne; in which people wishing to make an impression go their rounds to leave their cards; and in which lorettes display the last fashions. So brisk is the business of love, and show, and vanity, that ample business is found within the fortifications for five thousand six hundred and seventy-one of these carriages. They closely resemble the doctor's brougham of suburban London. They are driven by well dressed coachmen, who get only two francs and a half daily from their masters, because the *pourboire* for the driver of a remise exceeds that expected by the cabman. Ten sous, for instance, is an ordinary *pourboire* to a remise driver. The single brougham may be had for one franc fifteen sous per hour; the cabriolets of the remise class cost one franc and a half per hour; and the caleches, which are elegant open vehicles, carrying four persons, charge two francs per hour. These well appointed hackney carriages are also let out by the hour for two francs and a half; or for the month, at about five hundred francs, with a *pourboire* of twenty-five francs for the driver. Ten years ago there were not more than four hundred of these carriages in Paris. But within this time the social aspect of Paris has changed considerably. Every year the number of visitors increases; every year the Bourse counts new lucky adventurers; every year some fresh impulse is given to the commerce of the capital; and thus every year more people are ready to pass from the convenience of the cabstand to the more aristocratic vehicle which rests under the gateway. The man who can now afford to dine at Vachette's drives thither in a remise; forgetting, if he can, the less sunny hours, when it was a treat to rumble to a Barriere once in the rickety mildred, for the advantage of a cheap repast. A recent French writer on the Bois de Boulogne assures his readers that French countesses who drive past the Madrid at the fashionable hour in their own gay carriages, frequent the more lonely avenues of the wood in a remise during the evening, accompanied by their lovers, and with the curtains down.

It may be remarked as a characteristic of the common Paris cabmen, and the drivers of the remise, that they do their work with a listlessness, which has something saucy in it. They loiter upon the boxes; plant their feet upon the board before them; let the reins hang loosely upon the horse's back; glance sulkily to the right and left; and stop the vehicle in obedience to your request without either looking at you or moving from the comfortable position. Ask them for change, and they slowly proceed to gain the perpendicular, drag the heavy leather purse from their pocket, pause to exhibit the nicety of the art of expectoration, place your five frank piece between their teeth, and then in the course of two or three minutes, enlivened by sundry guttural expressions of annoyance, manage to drop the full change into your hand. Give them a *pourboire* of ten centimes only, and they will receive it and deposit in their bag without appearing to notice your existence; but if you re-

quire to be thanked you must at least invest twenty-five centimes. The cabmen of Paris, it must be allowed, have neither the low vocabulary nor the insolent menaces of the London tribe; but they have a saucy, contemptuous manner, which is equally galling. They say very little, because they know that every oath may cost them a round twenty francs; but you can see that it is only the fear of police interference that restrains them.

I have yet to notice the third class into which the Paris population upon wheels naturally divides itself. As a rule it may be safely stated that the omnibus conductors of Paris are a better class of men than those who attend to the doors of the people's carriages in London. They never push passengers into their vehicle, and give the driver notice to proceed before the people are seated; they never try to cram more than the proper number into the carriage. They are civil to gentlemen—extremely courteous and respectful to ladies. They never shout along the road for passengers; but wait quietly watching until they are hailed. They are all dressed alike, and wear caps ribbed, and drawn out like accordeons; short jackets, with gay buttons, and blue trousers.

During the progress of the vehicle, they are usually occupied with their accounts; and correspondence tickets, which they have by them systematised and always convenient. Indeed the writing and book keeping of a Paris conductor appears to be his chief employment. They are well checked, so that robbery of the employer is a difficult matter. The dial which is at the end of every Paris omnibus, indicates the number of passengers within. As each person enters, it becomes the duty of the conductor to advance the hand of the dial one point. It is known to all the passengers that this is his duty, and should he neglect it, the fact is known to all within; and the probability is that he will be reported at the next bureau for which the vehicle stops. Again the conductor is liable to a visit at any moment from the inspector; and should this official find that the number of passengers within is not marked upon the dial, a fine of five francs is at once inflicted. The repetition of the offence quickly leads to dismissal. Of the omnibus driver with his crone-yellow hat, I have nothing to remark, save that he is paid a salary of three francs a day; and he is obliged to deposit a guarantee with his master. Thus the conductor must be able to command three hundred francs before he can find work—a sufficiently heavy tax upon so limited a salary. There is a comfort, however, that the Paris conductor enjoys, which would be gratefully acknowledged by the London conductor—it is the projecting roof which screens him from sun and rain.

There are no less than four hundred omnibuses plying about the streets of Paris, giving work to two thousand four hundred horses. These vehicles all work harmoniously together; and by their system of correspondence, a passenger can go from any point to any part of the capital. Here passengers wait in winter by a comfortable fire, until the official in attendance informs them that the omnibus proceeding to or in correspondence with the point they wish to reach is at the door. Nor need they crowd to the omnibus. On entering the waiting room the chef inquires where you wish to go. Your reply produces a number. If you are the first applicant in the waiting room for your omnibus you have number one. This ticket entitles you to enter the omnibus on its arrival before any other passenger who may come after you. Thus pushing and scrambling are unavailing; for, as

the omnibus draws up, the chief places himself at the door, and receives the ticket from the holders, in regular rotation as they take their seats. And how commodious these seats are! Every passenger has a comfortable arm chair, with room to stretch his legs without annoying his opposite neighbor. There is ample space also between the tallest passenger's hat and the roof. Let me add that this commodious carriage is lighted by two powerful lanterns which enable any person present to read comfortably. The general fare, for any distance within the Barrières, is six sous; but there are omnibusses which run from the Barrière de l'Étoile to the place de la Bastille for three sous! I may add that the men who govern the waiting rooms are paid eight hundred francs a year—an income which they contrive to increase by selling perfumes and other light articles.

To the foregoing notes concerning Paris upon wheels, I may add that in Paris the hackney carriages are under the vigilant eye of the police. The horses are inspected; the cleanliness of the vehicles is insured. Even the genteel remises are subject to the regulations of the municipal body. On the first Tuesday of every month the police inspectors assemble on the Quai aux Fleurs, and the remises of Paris have formed a line which often extends to the Tuileries—pass slowly before them; each vehicle undergoing a vigilant inspection, inside and out as it passes; the height and breadth of every seat being duly measured. Those which are found deficient in any essential are turned back, and are not suffered to ply for hire before they have undergone proper repairs. Thus Paris on wheels includes a thoroughly regulated body of people; and is drawn by well fed if not elegant horses. The result is, that all people may ride in comfort and security. The pace is undoubtedly slow, but the progress is more than equally sure.

The following is from our traveling agent, Mr. A. S. FELCH:

CHICAGO, March 10, 1855.

MR. EDITOR:—Any one acquainted with Chicago as a commercial and manufacturing city will understand why I have solicited a place in your Magazine to give a passing notice of the prominent carriage makers of this city.

Chicago, when compared with other cities that I have visited during a few months past, presents an activity which I have nowhere else met with. The manufacture of farm wagons is carried on to an almost unlimited extent; some of the shops turning out five wagons per day. The establishments of P. Schuttler, J. C. Othet, H. Witbeck & Co., and the Chicago Carriage and Wagon Factory are the most prominent of this class.

WELCH & MENDSEN, OMNIBUS & CARRIAGE MANUFACTURERS.—This firm occupy a large factory on west Randolph street, with a repository and salesroom at 188, same street. This is one of the oldest establishments in the city, engaged in the manufacture of light carriages, and has acquired a reputation equalled by few in the eastern cities. Some idea may be formed of the extent of their business, from the following statement published in the "Daily Press": "In 1854, they employed seventy-five hands, manufacturing \$60,000 worth of carriages, and selling in all 293 vehicles." So extensive had the demand for their work become, that, in addition to the amount manufactured at their establishment, they disposed of 109 carriages of eastern manufacture. Their business is annually increasing, and the character of their work indicates a superior taste on the part of the proprietors;

which, combined with practical experience, and a well selected corps of workmen, is sufficient to render it a popular establishment.

The establishment of Ellithorpe, Kline & Bradley, corner of West Randolph and Bradley sts., deserves more than a passing notice. The manufactures of this firm, embrace every style of carriage from the light trotting buggy to the omnibus, and for style, workmanship and finish, will compare with any establishment that we have visited. These gentlemen are working men in every particular, and are determined to produce carriages that shall vie with any sold in this market. They have employed seventy men during the past year, and their sales amounted to the large sum of \$75,000.

Last, though not least, we notice the Chicago Carriage and Wagon Factory, incorporated May 26th, 1854, with a capital of \$50,000. A. Pierce, President, J. Metcalf, Secretary. This Company has erected large and commodious buildings on Milwaukee Avenue, covering about two acres of ground. The construction of the buildings and their general arrangements, indicate an acquaintance with the business, which alone may be considered as a sure guaranty of success. The machinery employed is of the most improved kinds, and is propelled by an engine of twenty-five horse power; every part of the carriage being constructed from the raw materials, having machines for trimming spokes, hubs, &c., and sawing and fitting felloes. The smith shop is well arranged, and contains 20 fires. This company has the facilities for giving employment to 150 workmen. This company, though comparatively in its infancy, has turned out specimens of manufacture of no ordinary character, and we opine that it is destined to be a model establishment, both in its productions and the perfection of its arrangements.

We would gladly speak of several smaller establishments, which deserve a passing notice, but time and the great length of this article admonish us to stay our pen.

Yours, &c.

F.

MISCELLANEOUS.

We received from Sacramento, Cal., a few weeks ago, a small package from an old and much esteemed friend, with whom we spent many joyous hours in our boyhood days, and finally, under the same roof and by the same kind master we were together taught the trade we now profess. Among other things we found the following beautiful lines (by Hardy) addressed to us. Their appropriateness, and the beautiful thought they convey have pleased us so well, that we here insert them:

WHEN YOU AND I WERE BOYS.

Oh, do you remember, Cyrus:
Our childhood's gleesome hours,
When all around was beautiful,
Our life-path filled with flowers?
When silver clouds o'erswept the sky,
And earth-land seemed so fair,
That you and I but little dreamed
Of life's last coming care?
And do you not remember well
Our childhood's transient joys,
And all our dreams of future bliss,
When you and I were boys.

So lovely then appeared the earth,
With its o'erarching sky,
That oftentimes we almost wished
That we might never die;
But seasons now have come and gone,
And years have rolled away,
For time, in his swift march speeds on
With unrelenting sway;
A change is stamped on all things now,
And gone are childhood's joys,
But o'er these days we love to muse,
When you and I were boys.

I lately stood upon the shore
Of old Muskingum's stream,
Where we once loved, in days ago,
To wander and to dream;
'Tis true the sun in tracks of red
Went down the western sky,
The stars as beautiful and bright,
Were gleaming still on high,
As when in boyhood's days ago
We shared each other's joys;
But sad and strange had been the change,
Since you and I were boys.

The friends we loved so fondly then,
Who shared our scenes of birth,
Who cheered us with their loving smiles,
Had left the scenes of earth.
Ah, yes, the friends of childhood's years
Had perished one by one,
As stars so bright at morning time
Are banished by the sun;
Our school-mates kind, those cherished ones
Who shared our childhood's joys,
Had roamed afar from childhood's home,
Since you and I were boys.

So sad and strange had been the change
The world out-thins seems lone,
But O, the change is in ourselves,
For we have older grown;
We've found that life hath many cares
To cloud the youthful brow,
Nath wrongs and ills, and sorrows deep
To make the spirit bow;
We've found that life is but a dream,
That transient are its joys,
And for those sunny days we sigh,
When you and I were boys.

And we have found our life path here
Is not o'ergrown with flowers,
For trials now are tempest-wild,
Where once they were but showers;
We too have found that things of earth
Are subject to decay;
The loved, the good the beautiful
Must shortly pass away;
That we within the darkness grave
Must bury human joys;
Ah, sad and bitter truths we've learned,
Since you and I were boys.

In life's great drama we are called
To take an active part,
With firm resolve, with ardor, zeal,
With firm and trusting heart
Let's nobly meet our duties here,
Its cares that us surround,
Let's buckle well life's armor on,
And at our post be found;
Let's never sigh for bygone years,
For childhood's fleeting joys,
For you and I can ne'er again,
Can ne'er again be boys.

So let us spend our lives on earth,
That when death seals our eyes,
Our spirits, freed, will find a home,
A mansion in the skies,
Where sorrow's train will enter not,
Where songs will never cease;
Where streams of love are flowing from
The crystal fount of peace;
More lovely then will be our home,
More lasting too our joys,
More happy will our spirits be
Than when we both were boys.

(Continued from Page 28.)

YANKEE DAVE'S FIRST TRAMP.—NO. 2.

[CONCLUDED.]

Railroads, what mighty inventions! With what startling velocity they hurry us along—over hills, valleys, brooks and rivers, until even the over-charged mind almost feels it lacks the power to keep pace with their progress. One mile post succeeds another with a rapidity almost incredible, and ere he who travels upon them for the first time is aware that one half the distance is accomplished, to his pleasing astonishment he finds himself at the point of his destination.

The last station on the Railroad leading from Portland to Boston is left behind, the untiring steed of iron has given his loud, shrill signal of approach, as he is bounding along in sight of the lofty spires and high towers of the beautiful city of Boston. Another scream from the engine—the brakes are drawn—the cars are checked to a slow pace—again the whistle sounds, and the restless train is brought to a stand, amid the noise of a collected multitude.

The hissing of steam—the ringing of bells—the gabbling of the great army of hackmen, who alone can make as much noise and confusion as an ordinary street mob—and the sharp, clear voices of the news boys, crying out at the top of their lungs—"Evening Post, Times, Tribune, Herald," &c., creating a whirlpool of ex-

citement and confusion not surpassed in the great Babylon of America, (New York.)

One of the most distinguished passengers who arrived on this train, and was now standing in the depot, was our resolute hero, looking around him in silent amazement, as if mentally debating the question whether the confused panorama stretched out before his bewildered gaze was indeed reality, or whether it was the idle fancy of a dream. A ready salute from one of the hackmen, however, enabled him at once to decide in favor of the former proposition. Not exactly understanding the spokesman, our young jour extended his liberal hand with all the politeness of a well bred gentleman, to the anxious driver, (who eagerly accepted it) with his familiar "How d'ye dew?"

"Very well, I thank you, Sir," was the ready response, which was followed by the customary solicitation of the gents of that profession—"I have a fine hack, sir, good team right here at the stand; won't you jump in, sir, and ride up to some of the hotels—take you to any part of the city, sir."

"W-a-l neou, yer Bosting fellers are famous clever, sartin; in course I'll get in and ride up with you, since yer have gone to so much trouble on my ackcount, and if it's all the same to you, jest put me down at some of the fashionable hotels; but really, I—I don't want you should put yerself aout too much on my ackcount, as I just as well could ha' walked."

"O, not at all, sir, not at all; that is our business to accommodate strangers," said the driver, perceiving that Mr. Robinson did not comprehend the full meaning of those commodious institutions.

This last sentence of the hackman made a very favorable impresasion upon the elevated mind of our scientific meehanie, and led him into the momentary delusion that the Bostonites were extremely accommodating to strangers.

The carriage stopped as directed, in front of the — Hotel, considered the most popular house of the city; when Mr. David Robinson of Vt., alighted, making an easy bow to the driver for his kindness, and turning on his heel, was in the act of tripping off up the steps, when his progress was arrested by the driver's loud salutation—

"I say, my friend, I'll take 50 cts., if you please."

"Er yer speakin to me, ginerall?" giving the supposed impudent driver an important look.

"Yes, sir, I'll take your fare, if you please," was the polite answer.

"The wot?"

"A half dollar,"—(somewhat louder and a little out of patience.)

"O, git aout, now, yer don't 'speat ye kin ketch me on that ere kind of pin kook, do yer? no-sir-ee, now, I've hearn uv yer Bosting smarters afore; you kant come it no how."

Supposing this was enough to silence the tricky hackman (as he supposed him) he turned about and quickly ascended the stairs to the office of the hotel. While standing at the counter giving his name to be registered, the discommitted driver made his appearance, and entered complaint to the clerk to the effect that he had brought said stranger to the hotel in his carriage, and that now he refused to pay his fare, upon which the modest clerk told our hero very politely that such was the custom, and if he rode up in the carriage, he should not hesitate to pay his fare.

"Gentlemen, 'tain't the few shillins wot I look at, but the principle of axing a man to get in his carriage, and then want to make him pay. I

did'nt ax him for to ride, but he axed me, nor he did'nt say anything about charges. Now, you don't come them games on me, no how."

The clerk, supposing his guest to be a little "how come you so," payed the hackman out of the drawer, meaning to make it right in the morning at which time he would be sober.

The hopeful jour, thinking he had come off victorious, after partaking of a bountiful supper, retired to his allotted room. The night passed pleasantly on as the spirit of our hero was roaming in dreamlands of imaginary visions which brought before his delighted gaze some of the big shops in which he soon expected to cut a figure that would astonish his fellow craftsmen beyond description. He was wandering through large halls filled with carriages of every kind and style, while the lordly proprietor was following him about from place to place, insisting upon him to take the foremanship of his entire factory at a thousand a year. With his thumbs in the arm holes of his vest, assuming the character of some important personage, he begged leave to decline the honor on account of the trifling compensation, when the anxious proprietor begged leave to add \$500 more to his first proposition. By this means a permanent arrangement was made for one year at \$1500. Glorious times, thought our sleeping hero, as he imagined himself enveloped in cloth of the finest cut, and boots of latest style—stepping about commanding an army of his fellow meehanics, at fifteen hundred a year.

There! that infernal, noisy gong has all of a sudden broke the spell, and the disappointed foreman awakes to find himself the same ordinary gentleman he was the evening before. Breakfast over, bills paid without a word, we find him making inquiries for the office of some of the big shops. Being directed to the factory of Mr. —, he directed his steps accordingly, and in a short time he is in the office of said factory. Seeing a gentleman standing at a desk writing (who was the clerk) he inquired if that was the office where they kept books, as his experienced father had told him that all large shops had offices where they kept books, &c. Our jour of course thought it proper, first to be sure he was in the right office before making further applications, otherwise a Custom House affair might be the result. The clerk supposing the young mechanic to be some country youth who was desirous of finding a book store, answered his question in the negative, and stepped to the door to show him the proper house. Somewhat encouraged that he was now on the right track, he tripped across the street and entered the house just pointed out. One glance at the untold number of books at once convinced our hero that he was indeed in the office of one of the big shops where they kept books, therefore further questions were considered useless, and the more important business of applying for a situation was immediately taken in hand. The first person he accosted with his usual "How d'ye deu," was a young lad behind the counter, of whom he demanded—"whar's the old boss?"

"The smallest of the two men standing at the desk," replied the boy.

Walking up to the gentleman pointed out by the young clerk, he threw down his traps by the desk, and extending his hand to the proprietor of the book concern, he commenced operations with "How are yer, old boss, yer jest the 'un I want to see."

The gentleman coming to the very natural conclusion that David was somewhat deranged or intoxicated, thought it best not to refuse giving him his hand, as experience and good man-

ners had taught him that the only way to get along with a man insane, or drunk, is to appear agreeable. Hand in hand, our hero proceeds to business—

Looking the former mysteriously in the face, he continued by way of introduction—"I say, old rusty, I am one o' the craft, I've hoarn of you menny a time."

"Ah, in—"

"I know yer jest like a book. Yer boss 'uv the biggest consurn in Bosting. We have hearn of you down in Varnmount, many a time."

"Well, sir, what of that," answered the merchant, becoming somewhat impatient with the unprofitable conversation.

"Wot 'uv it; O, git a-o-u-t;" giving the man of business a cunning smile, and a hearty slap on the shoulder, "I am bound to do business for yer, I'm jest the captain, too, wot kin den it up to yer likin."

"Well, sir, I am sorry to say that I don't—"

"Yes yer deu, now, sartin. Now I kin jest make anything in the business from a wheelbarrow to a coach."

"Why, my dear sir, this is no coach factory, answered the book seller," bursting into a fit of laughter.

"Why, in course it ain't," resumed the Yankee jour. "This is the office where yer keep the books for the workers, and so on. Now yer kan't come none of yer smarters on me, kause I un'stan all the hooks and turns round these ere big shops jest like an inkstan."

This was (as might be expected,) followed by a universal roar of the clerks and proprietor, in witnessing so comical a mistake.

David thinking all not right, was first to speak after the laughing hurricane had subsided, and inquire what they were all larfin' at.

On being told that the business of the house was to sell books, and that he had just come out of the right office across the way, &c., he finally settled down into the conclusion that Bosting was a hard place, and that the main business of the people was to fool and swindle strangers. He therefore resolved to leave his curse upon the town and all the big shops, and to return to his home in Vermont, without even seeing the object of his visit.

Thus ends "The first tramp of Yankee Dave." Should ever he be tempted to make a second tour, we will endeavor to give you a timely report of the particulars. V. W.

WHAT A CURIOUS THING MONEY IS.—It gets "tight" and it "keeps steady"—it effects every thing, and is affected by everything, and the more we have the more we are obliged to spend. Money is a "peculiar institution" by itself, and the moment it becomes plenty, up goes the price of everything with a rush, so that it makes mighty little difference to any body, except the gold diggers, whether the yield of the mines be one tun a year or thousands of tuns. Since the discovery of the "yellow stuff" in California, the amount brought to the United States has been enormous; still, rents, and all kinds of eating arrangements have gone up seventy-five per cent., and it is, therefore, all gammon to suppose the easy access to comforts and the necessities of life, depend upon the abundance of money. Double the present supply of gold and the price of every article for which money is given in exchange would meet with a similar increase, so what differencee does it make to any whether the mountains of Australia and California are full of precious metals or not?

EARLY HISTORY OF WHEEL CARRIAGES.

CONTINUED.

CHAPTER III.

That the use of wheel carriages became common in England as they did in France, may be gained amongst others, from Froissart; who, in speaking of the return of the English from Scotland, in the reign of Edward III, tells us of *leurs charettes*, which were most likely of a similar form to those above mentioned, though as they were used for purposes of war, they were without any of the elegant appurtenances that were considered appropriate for ladies of high degree.

The progress of improvement in vehicular locomotion appears to have been extremely slow, and as a reason for this we may offer the following remarks: First, a perpetually struggling country has little time or means of cultivating or encouraging inventive power, and second, the rude and unimproved state of the roads, which continued for centuries, make it no marvel that a machine nearly alike to the ancient broad wheeled wagon, was the only carriage employed by the nobility in early history.

In France we find progress in this department was almost equally slow. In *Le Roman du Roy Meliadus*, a manuscript which is supposed to bear date towards the middle of the 14th century, in which a representation is given of a carriage which had the honor of conveying His Majesty, which with all the added charms of poetical imagination has given to it in a wheel of architectural design, the body of the carriage has nevertheless a most unfortunate likeness to one of the old English vans. As a third reason for the backwardness in improvement, we may remark, was the strong prejudice which existed against the use of any kind of carriage ministering to personal indolence, it was thought derogatory to the dignity of men to be seen riding in them. Princes and electors who have avowed attendance on the meetings of the State, have excused themselves on the plea of the unfitness of their health to bear the fatigue of a long journey on horse back. One of the early writers mentions the entrance of Louis the Dauphin into Bruxelles (in 1456) on horseback, and that he was met at the port by the Duchess Isabella and other ladies of the Court on foot.

One of the most interesting documents relative to the time, is to be found in Roubo's *L'Art de Menuisier*. It has reference to the introduction of what would seem to us as the first attempt of a carriage suspended upon braces or springs (although one of the ancient historians ascribes this to a much earlier date. In speaking of a carriage brought from the King of Hungary as a present to the Queen of Bohemia, (and which seemed to excite the wonder and admiration of the good Parisians,) he describes it as *branlant et moult riche*. Hence we infer that this extraordinary present to the fair Queen of Bohemia was a carriage suspended upon braces, as *branlant* is the word which signifies quivering or trembling, which was to say that the vehicle swayed to and fro from thus being suspended.

From this time covered carriages began to be used, to a limited extent in France. They were forbidden for common use, even to women, as tending too much to the promotion of luxury; and as already stated, only those of the highest rank were permitted to use them.

At all public ceremonies there is no mention made of State coaches, but frequently of State horses, and State mules. Even his Holiness the Pope rode upon a grey horse; though to indemnify him for the exertion, his horse was led and his stirrups held by Kings and Emperors. Truly this man of Heaven must have made a display, which in the eyes of his subjects, far surpassed that memorable event of the humble master who entered Jerusalem upon the unbridled mule who trod over palms and garments of the holy people.

All history seems to favor the idea, that the merit of the invention of springs and braces is due to Hungary, and was from thence introduced into France about the same period. As we infer from Stowe, it was introduced into England, and indeed from all historical evidence which we have been enabled to collect upon the subject, the down trodden country of the Hungarians seems to be the land out of which the coach was born, though several nations have earnestly contended for the honor of fathering the unwieldy child, which has in its turn been fathered to a numerous tribe of now rapidly improving offspring. Benima contends for Spain, Semidi for Italy, the *Cyclopedia Francaise* for France, while our author Mr. Adams (for England,) puts in a claim founded on the whirlicote (whirling cot or moving house,) which conveyed the mother of Richard II from the terrors of Wat Tyler's mob.

What these whirlicots were we have not been able exactly to discover. Most probably, however, the first rude attempt at the close carriage of a later period. That the common people of England at this time had their conveyances, may be inferred from the record of the bearing of King Richard's corpse upon a *chariette* or litter on wheels, such as was used by citizens' wives, who were not able or not allowed to keep ordinary litters.

Anna the wife of this King, granted an annual stipend during the life of Robert Westende, *purvoieur de nours chariettes*.

There are various interesting and ingenious derivations ascribed to the word *coach*, and some of them are of a most amusing character; such for example as that of Menage who says that it is to be taken from the Latin *vehiculum*—a somewhat more probable one of Junius, to carry. Wachten from the German *kutten*, to cover. Lye from the Belgic *koetsen*, to lie along, or as it properly signifies, a coach or chair. Others have endeavored to prove its derivation from the Hungarian—that it had its rise in a village in the Province of Wieselung, formerly called Kotsee.

In Beckman's History of Invention, an extract is made from Stephanus Croderithus, who says, (speaking of the year 1256,) when Archbishop received certain intelligence that the Turks had entered Hungary, not content with informing the King of this important fact by letter, he immediately got into one of those light carriages of the place they call *kotze* and hastened to his majesty. This evidence, backed by the presentation carriage before mentioned, to the Queen of Bohemia, is most certainly in favor of the Hungarian coach-makers. However, as to the exact truth we must leave it to wiser heads to determine, for what with the *caroche* of France, the *carroce* of Italy, the *carri-coche* of Spain, and coach of England, the head is somewhat bewildered, and is fain to take refuge in the simple *carruca* of old Rome, from which these appellations most probably had their rise. After all, it must be a divided honor. The *caretta*, *chare*, *car charat* &c., being the earlier construction, they had the earlier derivation. Later came the Hungarian *kotze*, the German *kutsche*, &c., and adding both form and name to what you had before, produced a mixed vehicle, with a mixed appellation.

CHAPTER IV.

The horse litter appears to have formed a connecting link between the saddle and the coach. When Margaret, daughter of Henry VII, set forward for Scotland she rode on a fairy palfrey, but after her was conveyed by two footmen, one very rich litter, borne by two fair coursers very nobly dressed, in the which litter the said Queen was borne through all the principal towns and cities, or otherwise, to her good pleasure. The litter was as we here see, a vehicle of economy. Hall, the great chronicler of rights, thus describes the conveyance of Anne Bullen to her coronation: "Then came the Queen in a litter of white cloth of gold (not covered or bailed,) which was led by two palfreys clad in white damask down to the ground (head and all) led by her footmen. so she with all her company and the Mayor rode forward to the Temple Bar which was newly painted and repaired, where stood also divers singing men and children, till she came to Westminster Hall, which was richly hang'd with cloth of Arras and newly glazed; and in the centre of the Hall she was taken out of her litter." Up to the time of Charles I, the horse litter continued to be used on state occasions, but it gradually became employed, exclusively by the rich and aged, at a period when coaches were still very rough vehicles. Evelyn, in his day, states that he traveled in one with his sick father in 1640, from Bath to Watton, and this, Markland says, is the latest mention of the conveyance which he can find. There is a later mention of it in a bitter attack upon the old Republicans in 1680—can we forget that horrid accident when Mayor General Skippon came in a horse litter wounded to London. When he passed by the brew house near St. John's-st., a devilish mastiff flew as if at a bear, at one of the horses, and held him so fast that the horse grew mad; the soldiers were so amazed that none had the wit to shoot the dog; but the horse litter being borne between two horses, tossed the Mayor General like a pup in a blanket. Nothing can be more exact than this description of the operations of a horse litter.

Of the old vehicles that preceded coaches, whether rejoicing in the name of *chare car*, *chariot*, *caroche*, or *whirlicote*, we have little here to say. Their dignity was not much elevated above that of the common wagon, and they were scarcely calculated to move about the streets of London, which are described in a paving act of 1539, as very foul, and full of pits and sloughs, very perilous and annoying, as well for the King's subjects on horseback, as on foot and with carriages. There appears little doubt that the coach first appeared about 1564, although the question was subsequently raised whether the Devil brought tobacco into England in a coach, or else brought a coach in a fog or mist of tobacco, as one was considered as idle a luxury as the other. Stowe thus describes the introduction of this novelty which was to change the face of the English society:

[TO BE CONTINUED.]

PLATE XI.

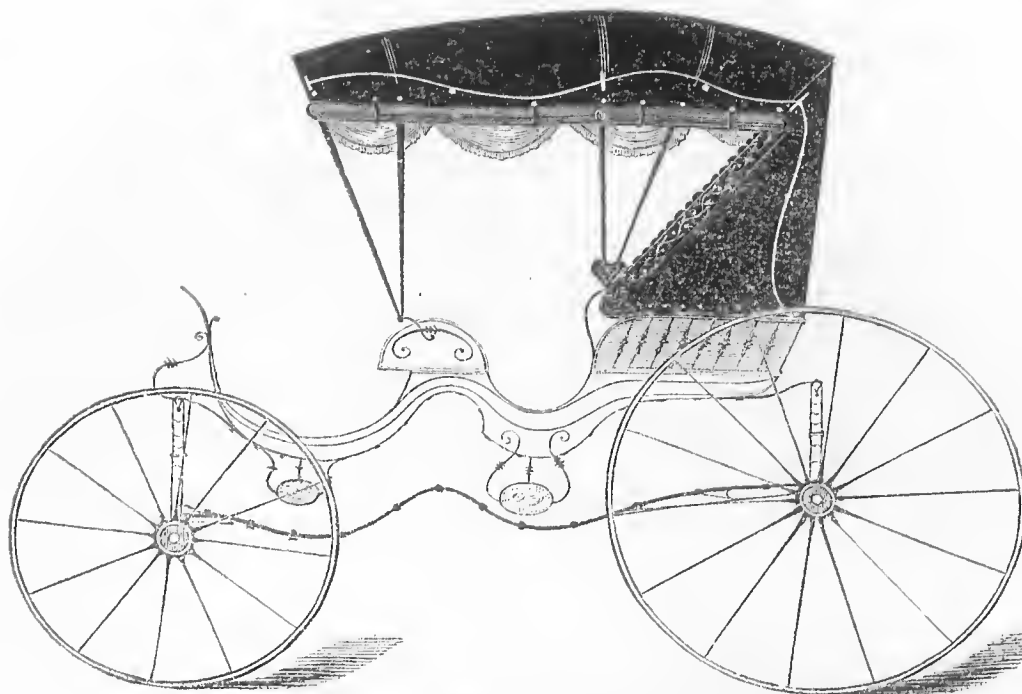


Fig. 28.—Sliding Seat Extension Top.

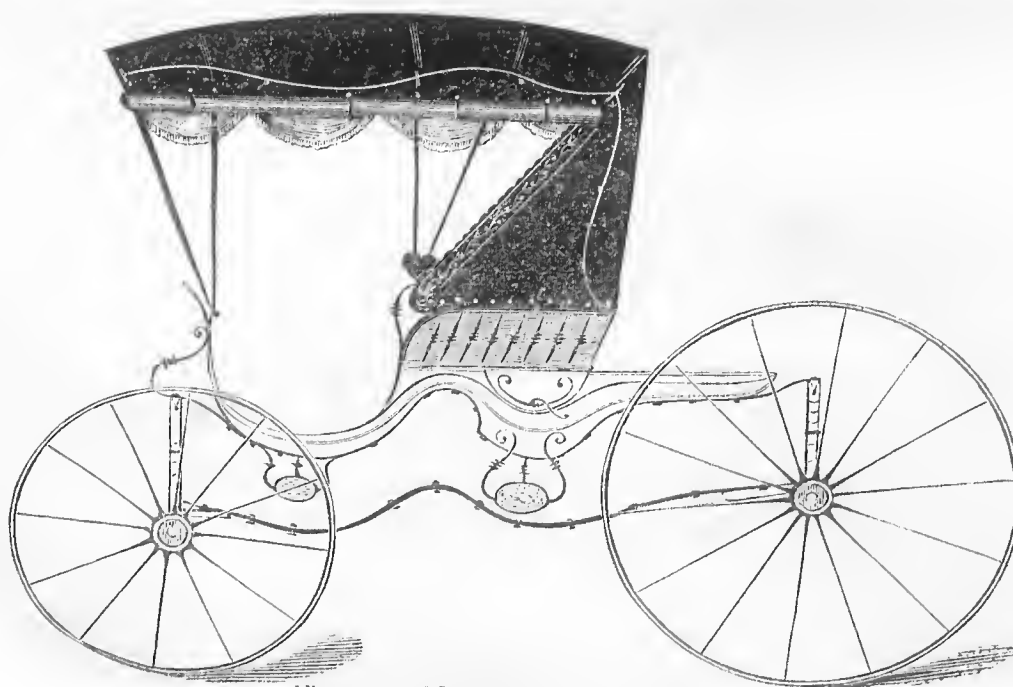


Fig. 29.—Sliding Seat Extension Top.

PLATE XII.

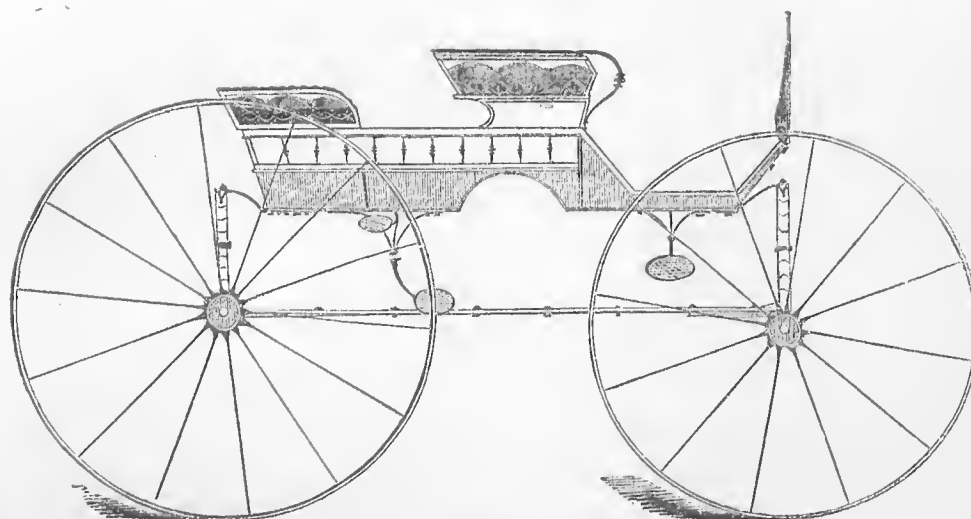


Fig. 30.—Sporting Wagon.

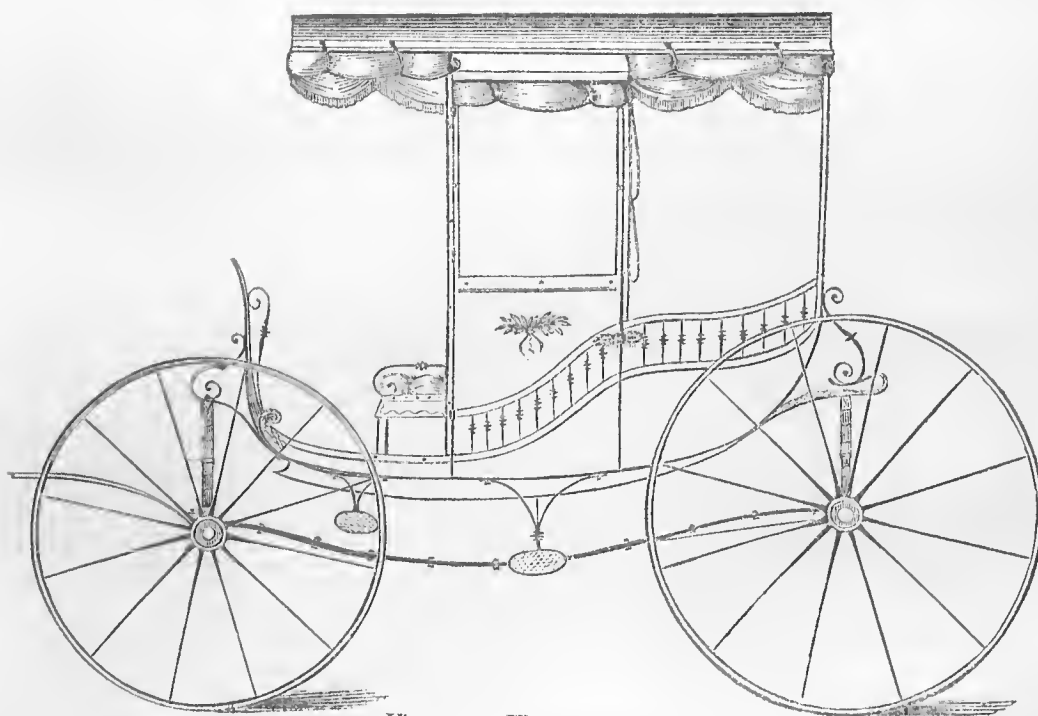


Fig. 31.—Fleming Carriage.

J. S. McClelland's Self-Adjusting Spring Coupling,
Patented August 8, 1854.

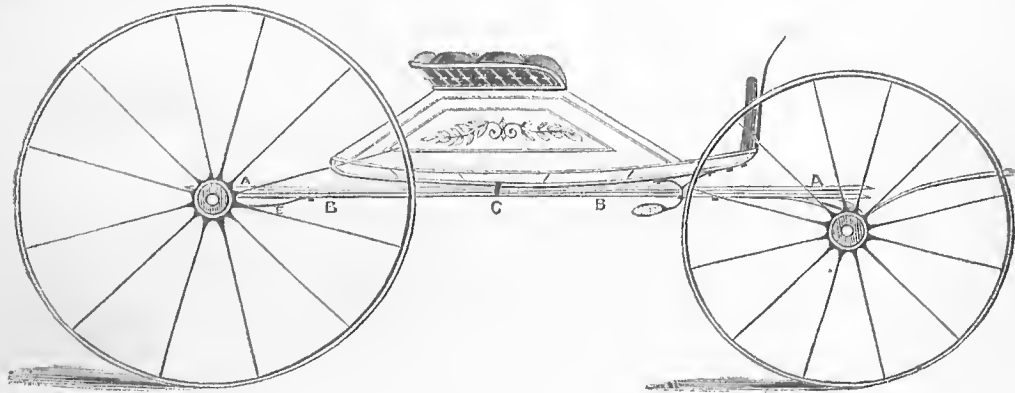


Fig. 32.

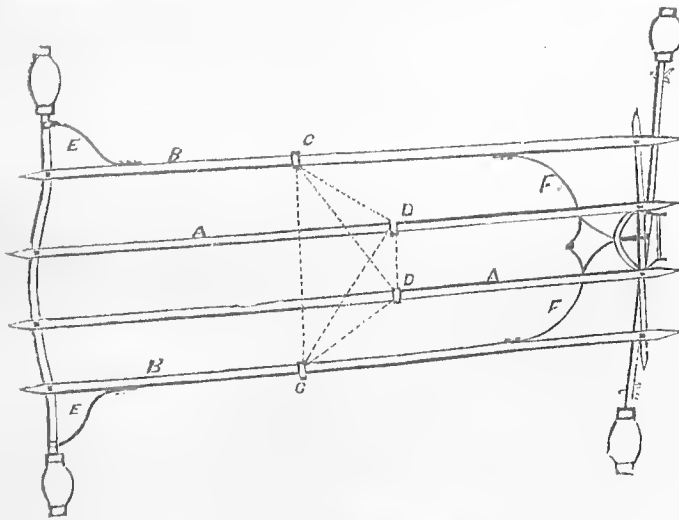


Fig. 33.

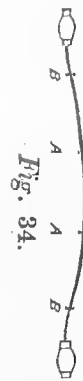


Fig. 34.

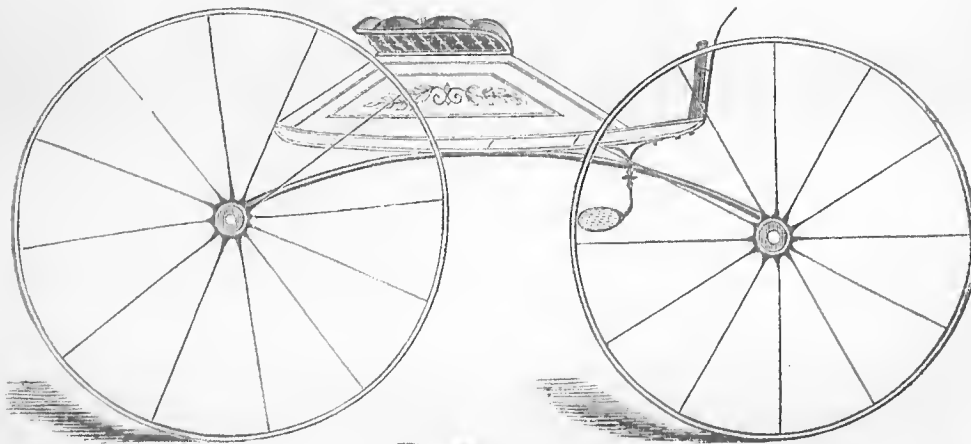
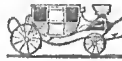


Fig. 35.

THE COACH-MAKERS' MAGAZINE.

C. W. SALADEE,

EDITOR and PROPRIETOR.



VOLUME I.]

NEW YORK, JUNE, 1855.

[NUMBER 6.]

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EXPLANATIONS OF THE DRAFTS.

Fig's 28 & 29.

Sliding Seat Extension Top.—We have received a drawing from each of the following gentlemen, representing with a slight variation the same carriage,—Messrs. J. R. Gates, of Ohio, and G. T. Morrow, of N. J. This being the case, both contributors must consider their designs illustrated by one set of engravings, Fig's 28 and 29. The former illustrating the appearance of the carriage as a two seated vehicle, and the latter as it appears with the back seat shoved forward, and the top attached to the dash. In regard to this very popular carriage Morrow remarks:

For Saladee's Magazine.

MR. EDITOR:—Will you permit me to make a few remarks through your valuable Magazine, in reference to the enclosed draft for a slide seat extension top, simply to illustrate the extent of their manufacture. The first carriage of this denomination manufactured in these parts was by Mr. Rogers, who operated in Brooklyn, (opposite New York city;) but the original exhibited a very stiff and clumsy appearance, and that portion of the body upon which the seat was made to slide, was wholly constructed of wood, consequently an imperfection was created, which was followed with serious consequences. However, like everything else, improvement closely pursued it, and is now a model of a carriage universally admired by purchasers desirous of obtaining a light and convenient family carriage, and still further to show your readers the extent to which they are manufactured in Newark, I would remark that my present employers, Messrs. Green & Co., are making more of this style of carriage than any other. Their sales average \$100,000 per annum, and nearly one half of this immense income is for slide seat work; also several other firms in this city are getting up quite a number of these carriages.

In this draft you will perceive that all the latest improvements are introduced, such as panel dash, extension top, gipsy quarter, and arched front. This latter is a decided improvement to this carriage on account of turning. The side of this body being very shallow it is finished with a beautiful vine carving, and no mouldings whatever. This top is constructed with five bows, permitting the two front ones to hook into an eye which is welded on the arm of the front seat for its reception, when the seat is moved forward. A similar eye is attached to the dash by means of wood screws, or welded into the handle if there be any, into which the pivot is inserted as shown in Fig. 29. In letting the top down this pivot at the extremity of the front bows, are caused to rest in an eye intended for them on the front bow to the main seat, and thus thrown back the same as any other extension.

In further describing the manner of arranging this top, Mr. Gates observes:

Great care should be taken to have the eye in the dash to be placed in an exact line with that on the front seat when it is thrown up, as shown in fig. 28, otherwise the top will be on a strain. To ascertain the exact locality of this eye attached to the dash, it first becomes necessary to measure from the front edge of the back seat (on a straight line with the bottom of both seats) to the eye at the front seat; suppose it to be 19 inches, you will then measure 19 in. from the front of the body under the revolving seat forward; in addition to this see that both the eye on the seat and that on the dash are on a horizontal line, and by that means you will correctly ascertain its locality.

For a further explanation of the construction of the body, the reader is referred to the explanation given in the Jan. No. of the Magazine, of a slide seat there illustrated. However, it would be well to remark, that in a very fine carriage of this style, the slide irons should be of polished brass or some metal which will require no paint, as it imparts a much better appearance to the job. The seat is solid panel, imitation of stick seat.

For Saladee's Magazine.

FIG. 30.—SPORTING WAGON.

MR. EDITOR:—Herewith I contribute to your Magazine (or more properly speaking) our Magazine a draft of a Sporting Wagon which we are now building in various different styles, but most generally after the fashion represented by the draft. Frequently a top is attached to the front seat. The side is solid and moulded off as shown in the drawing. Should it meet your approbation, give it room in your drawing department.

Wheels, No. 3; Carriage parts, No. 3.

Yours, &c., N. M.

THE FLEMING CARRIAGE.

FIG. 31.

The Carriage here illustrated is, with slight alterations, original with our worthy brother craftsman, Mr. R. J. Fleming, of Harrisburg, Pa.

From the appearance of the late carriages manufactured by this gentleman, we should judge that he devotes a considerable portion of his attention to the getting up of something new.

While paying him a hasty visit a few weeks ago, we particularly noticed the carriage here represented, and also a light standing top Phaeton, which seemed to exhibit a great deal of original design and style of finish.

The carriages constructed by Mr. F., after this pattern, are mostly panel work, which of course makes the lightest body. But it is also applicable to solid sides. The body rests upon the hind spring by means of pump-handles, which is the continuation of the sill or bottom side. At the front extremity of the body, the side terminates with a scroll, which is neatly finished with carving, and projects out from the bracket one inch. The door can be finished with a high panel, and the design of the side can be carried across it by the moulding finish there represented. Again, the door can be made skeleton, without any panel, save the side where it crosses the bottom. It also makes a neat carriage without any door whatever, by leaving the side in one solid piece, and in place of the stick work in the back quarter insert a plated arm, with a scroll turning under at the centre pillar. The front seat to this is made moveable. The engraving will further explain its mode of construction.

Wheels, No. 4; Carriage parts, No. 4.

If Mr. F. will send us a sketch of the Phaeton above referred to we shall be pleased to represent it in our next.

FIG'S 32, 33, 34 & 35.

Dr. McClelland's Self-Adjusting Spring Buggy.—Fig. 32 represents a side view on straight springs, which may be of either wood or steel. Fig. 33 represents a bird's eye view of the gearing. Fig. 34 represents a rear elevation of the hind axle. Fig. 35 represents a side view on half elliptic springs. Similar letters in the several figures denote like parts.

The nature of this invention consists in pla-

cing the body of the buggy on spring couplings arranged in sets or pairs in such manner as that additional pairs or sets shall come into action as the weight is increased on the body. In combination with this the body is fastened forward of its centre to the middle set of springs, and in rear of its centre to the outside set. This causes the body to have a rocking motion, and the tendency of the body to sink at one point is counteracted by its having to lift a spring at the opposite point.

Fig. 33 shows the manner of constructing the gearing. The springs A A and B B are—when of wood—1½ inches square where they rest on the axle and bolster, and are secured by bolts with clip heads; between these points the spring is rounded in an oval form from above downwards. E E are braces from the hind axle to the outside springs. F F are braces extending from the outside springs to the king bolt. C C and D D are the points at which the body is clipped to the springs. The dotted lines represent the bracing power of the bottom of the body from the peculiar cross bolting. This with the braces E E and F F, causes the buggy always to track without straining the couplings and yet allows free play to the springs. The Everett's couplings is by letting the braces F F connect and form an eye for the reception of the king bolt, as shown. The inventors claim of this form of springs over the common elliptic springs are—it is cheaper in its construction, has more ease of motion, is less liable to get out of repair, has more strength, is more durable, (owing to its elasticity,) is adapted to a variable weight upon the body, (the power of resistance in the springs being increased as their load is increased,) it is superior for light work, such as trotting buggies and for most forms of cheap work. The expense of elliptic springs, all supporting irons for the body, (which in this invention can be made very light, as it is supported by the springs,) the iron on the reach, and most of the iron for braces, bolts, &c., and the work upon them is dispensed with, making a direct saving on each vehicle of from twenty to thirty dollars. In its lightness, ability to sustain rapid driving over rough roads, this spring stands unrivalled.

Further information can be had by letter, addressed to the Patentee at Jefferson, Clinton Co., Indiana.

The Coach-Makers' Magazine.

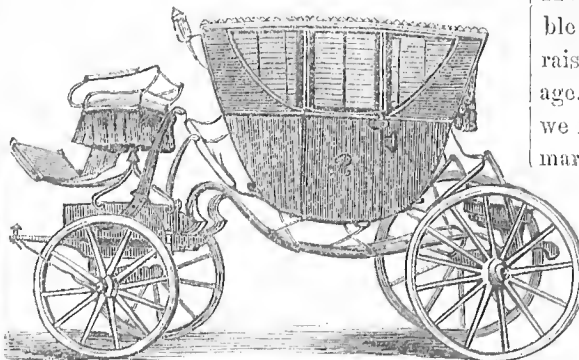
JUNE, - - - - - 1855.

FROM HOME—A DAY IN PHILA.

The day is past—the old king of light has hidden his golden face behind the Alleghenies, and while the bright queen of night in the fulness of her glory is making her proud ascension towards the summit of the bright blue sky, shedding her soft and welcome rays upon every object which raises up out of the Quaker City, we are seated in our allotted room at the Merchants, recording the scenes of the day just closed.

At an early hour this morning we visited Wood's Museum, a place full of rare novelty and curiosity, and as we passed slowly along, viewing every thing around us which seemed to possess the least interest, our attention was suddenly arrested by the sight of a most clumsy and unsightly carriage, which occupied one corner of the apartment. Upon coming up to the same we

found to our pleasing astonishment that it was labelled "*Washington's Carriage*;" a curiosity, thought we, that would no doubt interest our readers. We therefore made a sketch and will here illustrate it.



WASHINGTON'S CARRIAGE.

Reader, before you is a correct illustration, (quoting from a popular Journal,) of that carriage once the property of the immortal FATHER OF OUR COUNTRY,—that carriage in which was seen to ride that great and noble soldier of the Revolution,—that carriage to which in times past and gone many a nobleman bowed his proud head as it passed him by,—that same carriage which was oft times hailed with cheers and music as it rolled on through the streets of the Quaker City; and as we were standing and silently viewing this relic of the great and good WASHINGTON, the thought occurred to us that a brief history of the same would be an interesting item in connection with the illustration. To obtain a true sketch of the carriage was a task easily performed, but the more important sketch of its history we found was no very easy item to obtain; however, after much ciphering about, and being directed from one of the remaining fathers to another, we finally succeeded in getting a full and complete history of this carriage exhibition at Wood's Museum.

The above engraving will not only prove interesting because of the noble burthen it is said to have had the honor of bearing from place to place, but it also furnishes when (placed side by side with the modern carriage) a striking illustration of the rapid progress this branch of the mechanical arts has effected since the time of its construction, and thus reminds us of the fact that there is no end to the improvements. This carriage in its day was called a most perfect machine; both as regards beauty and convenience, and no doubt its manufacturer was ready to conclude that he had arrived at a standard of perfection in the art that could never be surpassed. This carriage, in his opinion, had come to a point of excellence beyond which it never could pass. But when we turn around us, and look upon the carriage as it now is, and then go back a half century and behold it as it then appeared, we are enabled in part to comprehend the great advancement our fraternity has made in that short period. And if we may judge the future by the

past, we can also form some conception of what we will be fifty years hence.

As we were roaming about from post to pillar in pursuit of a true history of the curiosity here illustrated, our steps were finally directed to Mr. Charles Perrie, an old and highly respectable father of our fraternity, who was born and raised in Philadelphia, and is now 80 years of age. Having entered the old man's apartment, we immediately introduced our business, by remarking that we had visited the Museum and

there saw Washington's carriage, and was informed by our worthy friend Mr. W. D. Rogers that he could give us a complete history of the same, and as it was our intention to illustrate this carriage in our Journal, it was very desirable to have its

history. So saying, we drew forth our sketch to show him how correctly it was executed.—The peculiar smile that was now playing over his care worn features at once convinced us that we were about to hear a story not looked for, when he proceeded in his pleasant and easy manner about as follows:—
"Well, my young friend, you may have a correct drawing of the carriage in Wood's Museum, but it so happens that that is not Washington's carriage, never was his, and am not sure that he ever even saw it; though this is mere supposition. But that Washington never owned the carriage is very sure, as I distinctly remember when it was made. It was built by David Clark, on Sixth, between Market and Chestnut Sts., Philadelphia, in the year 1790, to the order of Samuel Powell. After his death it became the property of his widow, who retained it up to her death, when it fell into the hands of John Ham Powell, (nephew of Mrs. Powell,) and who is still the owner of the same. It cost as near as I can recollect, \$800,00; by the way a very extravagant price in those days for a carriage. But as this was an extraordinary fine establishment, it was not considered too much.

Mr. Clark, the maker of this carriage, died of yellow fever in 1793. The names of those engaged in the business in Philadelphia in 1790 were D. Clark, Alexander Penman, (both Scotchmen,) James Simmins, Rob't. Feeling, Tho's Oagle, Wm. Hunter and James Kerr.

"The last time I saw the carriage once owned by Washington, was in 1798, when it stood in an open shed on the ground now occupied by the Bank of Pennsylvania (in this city.) It was afterwards sold to some man from New Orleans, who it is supposed took it with him to the latter place, but for what purpose I know not; therefore if that carriage is in preservation, it is somewhere in the south.

"Notwithstanding this carriage is being exhibited at the Museum as a relic of Washington, and has been illustrated in a very popular pictorial of our country as such, you may inform your readers that it is all a wilful mistake. Washington's carriage was imported from England the same year that Powell's was built, and the only difference existing between the carriages was in the construction of the bodies. The body to Washington's carriage did not flare out back and front as that of Powell's, neither was the side quarters closed after the fashion of the latter, but with leather curtains and glass door."

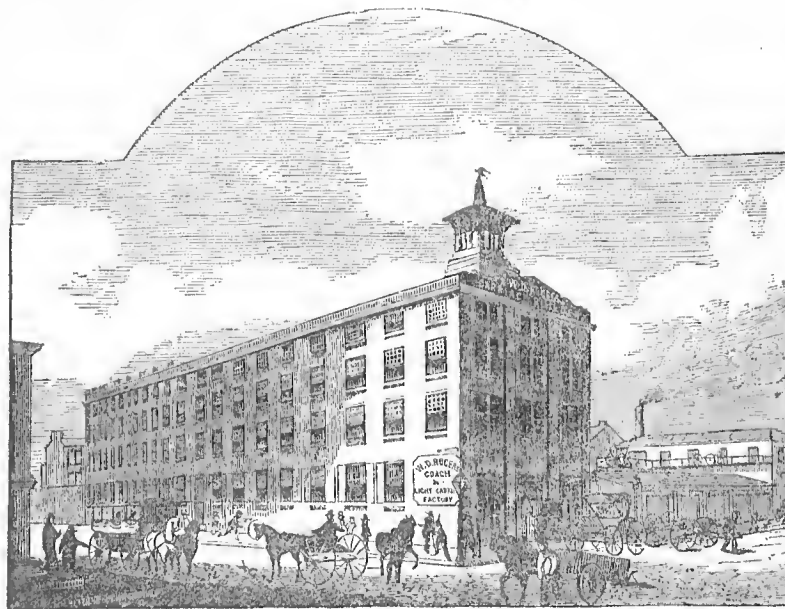
We confess we were somewhat surprised upon receiving this unexpected history of our illus-

tration, and were almost ready to exclaim, *is it possible?* and which was only suppressed by the sudden reflection that we are living in an age when Barnumism is a cherished doctrine, and therefore we ceased to wonder at this imposition upon the lovers of curiosity. In all probability this aged gentleman will furnish us with a correct drawing of the carriage imported to this country for Washington, which we will illustrate the usual size ($\frac{1}{2}$ in. to the foot.) Bidding adieu to our old friend with many thanks for his kindness, we next find ourselves in

DUNLAP'S CARRIAGE FACTORY.—Mr. Wm. Dunlap, the proprietor of this mammoth concern is classed among the most extensive manufacturers of this country, and from all appearances we presume that his facilities are rarely surpassed. His reputation is extended far and wide throughout the southern States, to which markets he ships a great number of vehicles. His factories are well arranged, and we are sorry that we cannot now give an engraving of the same. However, from the following dimensions of the buildings, the reader will be able to form some idea as to its extent. Lot fronting on Fifth street 161 feet; on York Avenue 161; on Buttonwood st. 46, and South st. 95 ft., the whole of which is covered by the buildings which constitute the main factory and ware rooms. The main building on this lot is a new five story brick, in which are the repositories for the finished work, &c. A square or two from this he has still another building 34 by 50; four stories high, in which about 70 hands are employed in the different branches of the trade. Taking leave of this brother craftsman, we shaped our course for

WM. D. ROGERS.—There are few persons among the great multitude which constitute the carriage consuming public, who are not familiar with this name. The popularity of this gentleman as a scientific coach-maker, and a thorough going business man, is extended far and wide throughout the Union, and from this fact he is generally supposed among a portion of the craft south and west to be a man of many years, and through this mistaken idea he has received by many the appellation of "Old Billy Rogers." Before our first introduction to Mr. R., we too had set him up in our imagination as a *father* in the craft, and of course the first opportunity which presented itself we were determined to make the acquaintance of the *old gentleman*. Accordingly two years ago, as we were passing through the Quaker City we called to see the man and his new factory, of which latter we had heard great accounts. On entering the large building we inquired of the gentlemanly clerk for the proprietor, who replied that Mr. R. was somewhere about the factory, and would soon return to the office. Presently a man made his appearance who we took to be a spry young jour, from the fact that he had his coat off, sleeves rolled up, apparently only about twenty-eight or thirty years of age, and looked very much like

one who was ready to pitch into anything in the way of work or business. As he entered the office the clerk turned from his task and informed us that this was Mr. Rogers. With our fixed idea of old Billy we very naturally concluded that the little man before us was only a chip of the old block, and therefore very politely informed him that it was the old gentleman we wished to see, upon which we were assured that the identical Billy was before us, and ready with the greatest of pleasure to conduct us through the factory, and show us what he was doing, &c. We relate this little anecdote of our introduction to Mr. Rogers for the benefit of those of our readers who are laboring under the same mistaken idea as ourself, that they may henceforth know the man as he is. Mr. Rogers commenced business in Philadelphia in 1847, and as the fruits of his close application and unceasing industry, he was enabled in the fall of 1853 to erect a factory which is now the model shop of this country—not the largest, but we believe it is universally acknowledged to be the best arranged factory for coach-making in the United States, and to give the reader a faint idea of its appearance we give below an illustration of the exterior view from a distance which will also serve to illustrate the extent to which Mr. R. is engaged in manufacturing.



ROGERS' COACH FACTORY.

The lot on which this beautiful structure is erected, is 172 feet by 137. The main building in view is 40 feet wide, and runs back the full length of the lot 172 feet, and four stories high. To the right in the engraving are seen lumber sheds, jobbing shops, &c. At the present time 100 men find employment in this factory.

Mr. Rogers has promised us a sketch of a light Phaeton of which he is the designer. This in all probability we will illustrate in our next. He is also the originator of a most beautiful light Rock-away and City Calash, both of which we intend to illustrate in the Magazine. The illustration of these carriages will speak more in behalf of

the abilities of Mr. Rogers as a practical coach-maker, than a pen and ink description would be susceptible of doing. We will therefore stand back and let them speak in our stead. The afternoon being far spent, we hastened to make a call at the Repository of that popular coach-maker of Philadelphia,

GEO. W. WATSON.—The notoriety of this worthy brother in the craft is not only extended throughout every State of the Union, but it also reaches across the Atlantic, where his name is deservedly recorded as the individual who received the first medal on light carriages at the World's Exhibition in London in 1850. It is therefore useless that we here pause to speak of his practical abilities in the art, as that is already more familiarly established than we could at this time describe, and as we shall hereafter represent some of his styles of work, we will pass on to state briefly the extent of his business at the present time, &c. Mr. Watson we think, served his apprenticeship with Mr. Tho's Ogle (whose name is among the first coach makers in Philadelphia,) and in 1828 he landed his little bark upon the tide of business on his own responsibility. He steered successfully ever after, and now stands among the most extensive manufacturers in America, as the following statistical facts will show:

No. of hands employed,	- - - 200
No. of Carriages turned out in	
1854 - - -	400
Amount of Jobbing done in	
1854 - - -	\$22,000
Amount of Wages paid hands in 1854 -	\$70,000

These statements being taken from Mr. W's books, we can assure our readers they are not magnified sketches.

As another mark of the widely extended reputation of this factory, we may observe

that scarcely a carriage in process of construction is unordered. His factories are situated on the outskirts of the city, which having been erected piece by piece as he progressed, are remarkably well arranged, and each apartment is conducted in a manner that will leave a favorable impression upon the mind of every individual who may chance to pass through them. The repository is situated on Chestnut st., above Twelfth, and is in the fullest sense of the term a splendid establishment. We shall long remember the happy and agreeable manner in which we were entertained while in the company of Mr. Watson this afternoon.

Surprising! how time steals away! it is now a

very late hour, and we are aroused from our happy task by the porter, who has come to inform us that the coach is waiting at the door to convey us to the cars. We drop our pen—take up our hat and hastily descend to the office, where we bid adieu to our worthy landlord, and are off for Washington “before the break of day.”

IN THE PATENT OFFICE.—Having arrived at Washington, and finding that we had but a few hours to tarry, we immediately repaired to that noted temple of invention the Patent Office, where, as might naturally be expected, we spent a short time most agreeably. No mechanic can go within the walls of this great museum of the mechanical arts, and behold the almost countless varieties of inventions, without feeling that it is good for him to be there; for here is spread out before his gaze a most faithful picture of the present age, and which enables him to comprehend how mighty is the inventive genius of Young America. As he passes along, throwing a bewildered glance upon every thing around him, he cannot but be impressed with the same feeling which prompted one of old to exclaim, “behold, what manner of stone and buildings are there;” for indeed it is a magnificent structure and one that does honor to the seat of government.

Having wandered for a short time to and fro amid the interesting scenes of the place, we are finally brought to a stand in front of a large glass case, whose contents would seem peculiarly interesting to every coach-maker who might chance to pass it by. Reader, let us pause a moment and take a peep through the glass at the great multitude of models which represent all the *hum-bugs* and the *few* improvements ever offered to the coach-making public. But as the evening shades are fast approaching, time is only left us to notice those things which seem to us of most importance, leaving the minor items for another time. The first thing which naturally attracts our attention, is that model of a long coupled buggy with wood springs, and which seems to be something new, and the thought now suggests itself that perhaps Hubbard has been making some improvements in his original wood spring; but no; putting our face a little closer to the glass we perceive (strange as it may seem) that the wonderful discoveries of the said gentleman are not at all connected, but is something entirely different, as the card upon it bears the following inscription: “J. S. McLelland’s Self Adjusting Spring Coupling, patented August 8th, 1854, and for the purpose of keeping our readers posted on all new inventions pertaining to the trade, we have made a sketch and illustrated the same in this No., an explanation of which will be found under the proper head.

We shall next call the attention of the reader to that little model of a buggy labelled “Everett’s Coupling, patented Dec. 17th, 1850.” In

our last issue you will remember a notice we then made in regard to the contention between the Everetts and G. Haussknecht, as to which was the legal owner or patentee of said invention, and at the same time promised to investigate the matter and endeavor to set it right in this No. But since the question is going to be investigated in all probability before the proper courts, and will be discussed on either side through the Magazine, we decline expressing any opinion as to which is the legal patentee, but shall leave the reader to hear both sides and then form his own conclusions accordingly.

The model above referred to has a socket joint and friction roller employed in the construction of the coupling, which we have never seen applied to any of those couplings known and now sold as Everett’s. But here is another model labelled “Gustavus Haussknecht’s Carriage Coupling, patented Jan. 13th, 1852,” which seems to be the identical coupling illustrated in our Feb. No.

Haussknecht contends that as they (the Everetts) claim a friction roller and socket joint in their coupling, they have no right to deviate therefrom, &c., &c. The Everetts on the other hand offer to prove that they do not claim the said socket joint and friction roller in their letters patent, but simply say that they use the same, &c. We do hope the matter will be speedily settled, for as it now rests all parties concerned are at a loss to know what course to pursue. In various cities, to our knowledge, this same coupling was sold by the agent of the Everetts to one coach factory for the city, and by Haussknecht’s agents to another factory for the same city; consequently a dispute arises between them as to which has the right of manufacturing, and therefore the question has arisen in different parts of the Union “*who is right?*” and is a question that must be decided before the craft will feel at liberty to purchase the right from either party, hence the necessity of a speedy decision.

There are quite a number of other models of which we would be pleased to speak, but neither time nor space will permit. Therefore at some future time we shall have occasion again to call our readers around the model case in the Patent Office.

COACH PAINTING.

[INTRODUCTION.]

Since the first appearance of our monthly journal, scarcely a day has come and gone without the receipt of some communication in which the writer expresses his anxiety of seeing a series of articles from our pen on this subject, published in the Magazine.

In complying with this urgent request, we shall commence in this No. to republish our observations under this head, as they appeared in the *Coach-Makers’ Guide*, 1854, adding, how-

ever, various receipts and articles not therein contained, thus making them more full and complete than in their previous form, as we now circulate about thirty copies of the monthly to one of the yearly (*Guide*), there are very many of our present patrons who have never seen our articles on this subject. For the satisfaction of all such, and those of our readers who have written us for information in this branch of the carriage, we most respectfully submit the following to their careful consideration.

However, before proceeding to enter into any details respecting the nature, use and composition of the substances employed by the coach-painter, we shall give a brief description of the tools or implements necessary in this occupation, with directions for their selection and proper use.

PAINTING.—NO. 1.

The Implements necessary in Coach Painting.—The first thing in order and of importance, is the paint or grind-stone and muller-employed in grinding colors. The grind-stone upon which the paint is ground, and now in common use, is a horizontal slab, about twenty inches square, and sufficiently heavy to enable it to remain fixed and firm in its place without fastening. The best material for this stone is spotted marble or granite, but when that cannot be procured without inconvenience or great expense, the ordinary white marble may be used; particular care should be taken that the stone is hard and of a close grain, and is destitute of small pores, which are sure to retain part of the first colors ground upon it, and thus prevent the stone from being properly cleansed, and render the colors which are ground afterwards mixed and dingy. A large piece of slate is sometimes used for this stone. This however is very improper, except the colors are of quite a common description, and the painting requires no nicety. The muller is a pebble-stone, in the shape of an egg, with the largest end cut off and ground perfectly smooth; it is generally to be purchased at the color shops ready made. The greater its size, (if the dimensions are not so large as to make it difficult for the workmen, with moderate exertion, to keep it in continual motion,) the better. The usual size is from three to four inches in diameter at the flat end, and about six inches high. In choosing it the principal points to be observed are that the surface is perfectly smooth and the edges well rounded up.

An excellent substitute for the grinding of all common paints, is the mill now extensively in use in coach shops, which is put in motion by means of two cog wheels, one running horizontal and the other perpendicular with crank revolving in the same position of the latter mentioned wheel. But as in this process of grinding there is more or less waste of paint, it is not well adapted to grinding costly colors, though it is a great saving of labor, as the heaviest portion of color used in coach painting is of ordinary kinds, it is

advisable for each shop doing a tolerable business to be in possession of both the mill and the stone, and thus by one you will save time and the other paint. Another objection to the ordinary mill for grinding fine colors is that it is almost impossible to keep it perfectly clean, so that it has a tendency to cloud every bright color which is run through it.

We now pass on to speak of the kind of brushes necessary to the execution of this class of painting. In no particular ought the painter (who wishes to insure superiority in the execution of his work) to be more circumspect than in the choice of his brushes and pencils. Brushes used in this department of painting are either round or flat, and are of various sizes; the round ones vary from a quarter of an inch to one inch and a half in diameter; for some purposes they even exceed this latter size. The larger ones are adopted for laying on the first coat of paint or priming, also for painting over large surfaces, which require considerable quantities of color. The smaller brushes are used for parts to which, from their size or situation, the larger ones cannot be applied. Brushes of a flat form are usually called *varnish brushes*, being chiefly used for that purpose, the round brush not being at all adapted, in shape. For applying color on a round or flat surface, we think the flat brush should in all cases be made use of instead of the round one.

A correspondent of the *Mechanics' Magazine*, (vol. 1, page 277,) makes an objection to the use of round brushes, which must be admitted to have great weight upon the subject. "Being made round," he says, "they are by no means well adapted in that shape for laying colors on a flat surface; the consequence is, that painters, invariably use these brushes but one way for the purpose of wearing them flat, which goes to prove the necessity of an alteration in their general shape.

Then we would advise the coach painter, when making a selection of brushes, to choose only those that are of flat or oval shape. All brushes used for the application of color upon the running part of the carriage, are invariably made of hog's bristles; the same kind of brush is also used for certain kinds of paint on the body, viz: priming, (which is white lead and lampblack) and filling, (by some painters improperly called rough stuff.) But after the body has been cut down ready for the color in which you intend to finish it, a camel-hair blender should, in all cases, be used for applying the color. First, all painters must have observed that no fine color can be properly applied to a smooth surface with a bristle brush, as it has a tendency to cut through the paint and leave the work streaked, and when dry appears rough, and shows the impression of the bristles the brush has made in the paint when applying it. This difficulty is very easily obviated by the use of the camel-hair blenders. This being a tool

which many of our readers may not comprehend by the name it bears, we will describe it in the following manner: The blender here spoken of is a brush made of camel's hair, and invariably flat, varying in size from one inch by one quarter, to two by one half inch; Some, however, are still smaller and others larger, but these are the sizes adapted to coach painting. The hairs to these blenders are fastened and secured by means of a tin case the shape and size above described, and can be obtained at almost any drug store and color shop. After using the blender it should be laid in a flat pan, containing a sufficient quantity of raw linseed oil to cover the hair; then before it is again dipped into the color you intend using, it is cleansed by pouring a small portion of turpentine on the hair, and drawing it a few times across the blunt edge of a palette knife, it will be sufficiently clean for use; in order to save the contents of the brush after the turpentine has been poured on, hold the palette knife over the vessel containing the lead priming, as it can do this paint no damage, and thus be saving that which otherwise would be a loss.

In making your selection of bristle brushes, observe, in the first place, that the hairs are strong; and next, that they are close together and bound fast with the threads that bind them round in the stock. If the hairs are weak the paint will never lie in a good body; and if they are not close together they will spread and divide unequally when used, and consequently cannot work well. Pencils differ materially from brushes, in the smallness of their size and in being manufactured of much finer and softer hair. In some cases the hair of the marten, or of children, and even swan's-down, are used for them, but these materials are generally confined to pencils intended for artists. The coach painter, however, is rarely engaged in work of so delicate a nature as to require them. The pencils now in use among this class of painters are made of camel's hair, almost universally, varying in size from the sixteenth of an inch to a quarter.

In selecting them a very simple trial will prove whether they are fit for your purpose, you have only to put them into your mouth, and after wetting them a little and draw them out between your tongue and upper lip, and if they present a sharp point, and the hairs come out full next to the case and without separating, the pencils are good; if the hairs are of a ragged appearance, or separated at the point, they cannot be depended upon.

To steady the hand while using the pencil in ornamenting, painters generally use what they call a *moll stick*. This is made of a straight piece of wood with a knob at one end of it, resembling a printer's puff, but smaller, composed of some soft substance inclosed in leather. This end is rested lightly on the work, and the other end being held in the left hand, will render the stick a support to the right.

The palette knife is commonly obtained in all drug stores. This instrument is generally made of steel, which ought to be highly tempered, extremely thin and perfectly flexible.

There are other articles which may be desirable, or even indispensable, for the painter to have among his apparatus, but which do not require any description of their nature or use, or any directions for their selection, such as putty, putty-knife, dusting-brush and cloths, pots and pans of different sizes for paints, a large pestle and mortar, &c., &c.

CONTRIBUTORS TO THIS NUMBER.

F. J. FLOWERS, of Michigan.

G. T. MORROW, of N. J.

J. R. GATES, of Ohio.

NELSON MANN, of Canada West.

R. J. FLEMING, of Pa.

JOHN E. MANLEY, of Conn.

ANSWER TO CORRESPONDENTS.

M. N., of N. Y.—You are wrongly informed, as no Enamelled Leather is being sold in Philadelphia for the price you mention. We have never heard of Ward's Leather being sold for less than 14 cts.

C. H. T., of Ala.—Your communication comes too late for insertion in this No., and as the desired object could not be attained by its appearance in the next, we return it.

C. H., of S. C.—Your designs for the arch buggy body is received, and with slight alterations it shall appear soon.

T. D., of Tenn.—Your drawing of the Prince Albert Coach is too ancient to be admitted as a fashion plate. The two buggies are good designs, and shall receive the notice they so richly merit. The various suggestions you offer shall not be forgotten.

P. P., of N. Y.—In preparing putty for bodies, use less linseed oil and employ larger portions of drying substances, and it will not swell and shrink when the job is completed, as before.

A. J. S., of C. W.—Send us a specimen of your drawing, and we will be better able to answer your inquiry. You seem not to have understood the import of our letter.

T. L., of Ohio.—Venet's varnishes of N. Y., are becoming very popular among the craft, and so far as we have the means of knowing, render entire satisfaction. Whether this Varnish costs more than that you refer to we cannot say.

C. W. S., of Pa.—You should hold your pony till you are certain all is right,—then let him *went*. We think you are unnecessarily alarmed. There are several *John Smiths* you know.

E. A. E., of Me.—We have no acquaintance with the firm you speak of in New Haven, Conn., therefore we cannot advise you neither one way or the other. A letter addressed to Mr. W. Jennings of that city might be satisfactorily answered.

W. W. W., of N. Y.—We have never seen the kind of axle you speak of, but we are quite sure they are not manufactured in Newark. No matter what you bought them for.


C. & C. M., of Ind.—The kind of springs you refer to can be had at Wm. Wright & Co.'s Factory, Newark, N. J. Price, &c., you can ascertain by dropping them a line. Your favor is duly appreciated. Please send us drawings of your three perch buggy.

G. W. T. & Co., of Conn.—We were not in Boston at the time you speak of, consequently S. S. T. could not have made the arrangement with us which he has informed you of. It might have been one of our traveling agents; if so, all right.

M. J. L., of Sacramento, Cal.—Your very welcome communication is received, and shall appear soon. We shall be most happy to have you correspond with us regularly, as our readers will be none the less gratified in hearing from the golden regions, and the progress of the craft in that section of the country.

J. P. H. of Ohio.—No Camel hair blender is intended for applying varnish to bodies, (flowing coat) as with this implement it is impossible to spread the varnish sufficiently. A ground bristle brush, of medium size, and of a flat or oval shape, is the kind of brush you should use for such work.

Some painters keep their brushes in oil; others in water; and some again in spirits of turpentine. We prefer water for the preservation of brushes of all kinds, (blenders excepted, for which oil is best. However, care should be taken that the brushes do not sit in the water so deep as to permit it to cover the cord with which they are bound to the stock, as that would have a tendency to loosen them.

 A Coach in our next Number.

Sprout's Combined Carriage Spring and Coupling, Sprout, Burrows & Co., Manufacturers, Hughesville, Pa.—We have just received from the above gentlemen, various illustrations of their new spring and coupling for carriages. The arrangement of this spring is very simple, and is applicable to every description of carriage, and so far as we are capable of judging, we pronounce it the best improvement in this branch of the carriage ever introduced to the public. These gentlemen have erected extensive factories and will soon be ready to furnish the craft with a spring which cannot but meet their approbation. In our next we shall have the pleasure of representing this improvement, when further particulars will be given.

—We especially direct the attention of our Canadian readers to the advertisement of Messrs. Pratt & Letchworth, of Buffalo, N. Y. Those gentlemen are extensively engaged in importing every description of coach hardware and trimmings, which they offer to the craft on the most reasonable terms.

—Coach makers visiting Pittsburgh, Pa., for the purpose of purchasing stock will no doubt find it to their advantage to call and examine the extensive assortment of hardware and carriage trimmings, kept at the house of Hiram A. Pryor, No. 137, Wood Street. It will be seen by referring to his advertisement, that he is determined to furnish the craft with stock at as low a figure as the same can be bought in any market west of the mountains. The reader will also observe that this house has an established *cash price* on all goods sold, and should the purchaser desire time, he is charged a reasonable percentage for the same. We much admire this system of doing business.

WANTED.—Messrs. Chapin and Graham, (coach makers of Mishawaka, St. Joseph co., Ia.) requests us to state that they are in want of a good carriage painter, to whom good wages and a permanent situation will be given by applying immediately.

NOTICE TO NEW SUBSCRIBERS.

It is with no ordinary degree of satisfaction that we state, (and doubtless our worthy patrons will rejoice to hear it,) that the success of the Magazine has gone far beyond even our most flattering expectations, and consequently we have twice been compelled to enlarge our monthly edition, and with this No. we expect to reach over *twelve thousand* readers throughout the United States and Canada.

In consequence of this unexpected rush, there are quite a number of our late subscribers who do not now receive the February and March No.'s. To such we would say, that should the demand for the back No.'s continue for a short time to come as it has done, we will be justified again to reprint and forward them. However, should we fail to do so, you shall pay only for what you get,

and the amount thus over paid shall be placed to your credit for the next vol., or returned, as you may direct. We hope this will prove satisfactory.

FURTHER IMPROVEMENTS.

In addition to the present attraction of our Journal, we would especially call the attention of our readers to the advertising department. Horace Greeley, that noted editor of the N. Y. Tribune, some time since very wisely remarked, that in order to become familiar with the spirit of the age, is, to read the business advertisements of the day. And so we would say to the readers of the Magazine. If you wish to see the spirit of coach-making, notice carefully our advertising department, as it appears in this No. Its contents are really valuable to every proprietor, as it at once introduces him to all the popular houses in the Union, which furnish the various kinds of materials used in the construction of carriages, and where such stocks can be purchased to the best advantage, and it will also prove an interesting item to the general reader, as it presents a vivid picture of the times, and is a faithful representation of the rapid progress of that branch of the mechanic arts yet in its infancy, but destined to become a mighty business; and in short it embodies a vast amount of information.

GIBSON HOUSE, WALNUT STREET, CINCINNATI, O.—A. WETTERBEE, PROPRIETOR.—We are aware that there are a great number of our readers who frequently visit the Queen City either for business or pleasure, and of course they are desirous of stopping at a house where they may feel perfectly at home, receive proper attention, and a reasonable bill. To all such we most earnestly recommend the Gibson House. You will find Mr. W. its worthy proprietor (what we would term, familiarly speaking,) a most clever and accomodating *little fellow*. Call and see him.

MECHANICS' INSTITUTE, CINCINNATI, OHIO.

Being in Cincinnati a few day ago, we called upon our old and much esteemed friend and brother chip, Mr. J. W. Gosling, who reminded us of the fact, that the above institution was open, and that no doubt a great treat was in store for us if we would but visit the place. Notwithstanding we were in a great hurry (as we always are,) we managed to spend an hour here very pleasantly. It is really an interesting place, and no person visiting the city should leave it without seeing this exhibition of the mechanical arts.

The productions of our own craft on exhibition are very limited, but what few carriages there are, will at once convince any practical carriage-maker that the craft in Cincinnati keep close pace with the best manufacturers in the United States. The City Calash from J. W. Gosling's is a most splendid affair; also a hickory

Buggy from Roberts & Curtis, which is decidedly the neatest buggy of that denomination we have seen for many a day. A hearse and various other vehicles are being exhibited.

—The French Rule continued in our next.

EVERETT'S PATENT COUPLING.

Since a discussion is commenced in this No. of the Magazine, relative to the disputed claims of the Messrs. Everetts to the right of the above coupling, we deem it proper to acquaint our readers with the commencement of the affair, so far as we have personally interfered, so that they may correctly judge the motives which have prompted us to act in the matter, as well as those of the other parties; and this we cannot do in any better way than to give Mr. Gilbert's first letter upon the subject, and our reply to the same. Our readers will remember that Mr. Geo. Gilbert, of Circleville, O., has purchased the entire right for this coupling from the Messrs. Everetts for all the Western and Southern States, and for which (as we are capable of knowing,) he has paid a very large amount. Should it therefore be made to appear that the Everetts are practicing that imposition of which they are accused, it is evident that Mr. Gilbert is not engaged in the plot, but (having paid a fair price for the improvement,) is acting in good faith, and from honorable motives, and from what we know and can hear of the man it is but justice to state, that all those who have bought this right of him will not suffer thereby, let the matter terminate as it may.

The proposition Mr. Gilbert makes (as it appears in this No.) we think is very gentlemanly, and the other party is in honor bound to accept it, for surely there is no means by which the matter can be settled more satisfactorily to the public mind, than in the way Mr. G. proposes. It is essential to all parties concerned that the matter be brought to a speedy close, either by compromise or by law.

CIRCLEVILLE, May 25, 1855.

C. W. SALADEE, ESQ. *Dear Sir:*—I arrived home last evening, and will be at home all this week. I would come up to Columbus, but I found my family so unwell that I cannot leave at this time. It is important that we should see each other, as your notice in the May No. in regard to Everett and Haussknecht's Patent is wrong and uncalled for, and will do me and others thousands of dollars damage. If you had examined the Patent Office reports and found the claims and date of each of these patents, you would have been convinced that Haussknecht had no claims to what he pretends, whatever. He has written me several letters trying to buy me over to his patent; also to John W. Gosling, of Cincinnati. Gosling has sued Haussknecht and A. J. Beaumont his agent. The trial was set down for to-morrow the 16th, but as I cannot go down, it will go over until next week.

I offered to give Haussknecht good bonds, to pay him all expenses of every kind, and five dollars per day if he would commence suit, and prosecute the same in the U. S. Court, to a final trial, against any one using Everett's patent in

Ohio, and gave him the name of Booths of your city, and some dozen of others. He does not attempt to sue any one. I investigated the matter over a year ago, both at the Patent Office and in New Haven, Ct., and found that Haussknecht's Patent could not be made practicable, and you cannot find a carriage maker in the United States that would put one up according to his drawings and model. You can see all his drawings at John W. Gosling's in Cincinnati. I had to recall my agents from Alabama, Indiana, Virginia, and other States on account of your editorial notice in the May No. of your Magazine. The damages are yet to be estimated. I hope you will come and see me immediately.

Yours, truly,
GEORGE GILBERT.

COLUMBUS, O., May 16, 1855.

MR. GEO. GILBERT—*Dear Sir*.—Yours of yesterday is duly received, and we hasten to notice that portion *only* which seems to claim our attention. You very knowingly remark that our notice of the contention between the Everetts and Mr. Haussknecht was "wrong and uncalled for." Upon what basis, sir, you form this ready conclusion, we have yet to learn; and, sir, lest your temper should carry you too far, we would most respectfully remind you of the fact that our Journal is devoted *exclusively* to the interest and welfare of the craft, and if we are true to our calling as its editor, we are in honor bound to acquaint the coach making public of any or all disputes which may arise between inventors of the various improvements in carriages.

A contention of no small importance has of late been created between the Everetts and G. Haussknecht, in regard to a certain coupling, and which contention has caused no little excitement among the craft, who, as a matter of course, are anxious to know the right. Therefore upon the receipt of Haussknecht's letter (and article for publication, in which he cautions the public in such terms as to make the contention a serious affair,) we made the notice you have condemned, and in so doing, we but manfully discharged our duty, and have yet to learn from a reliable source that we were wrong, or that the same was uncalled for. Now, sir, we have placed the matter before the public purely through motives of justice to all parties concerned, and particularly to our fellow craftsmen.

You cannot be blind to the fact, that as the matter now stands, two different parties are selling the same patent right. It becomes apparent therefore, that one or the other of said parties are wrong, and consequently all persons purchasing this right from the latter are imposed upon, and a question of the utmost importance presents itself, viz: *Who is right?* And, sir, if you are confident that the Messrs. Everetts are right, and the other party wrong, every honorable man would naturally suppose that you would be anxious to have the matter publicly investigated.

Mr. Haussknecht will appear in our next in defence of his rights, and as a matter of course you are invited to the contest. Each party can have a reasonable space for the defence and explanation of their claims, by paying for the space they occupy. Our own opinion when expressed shall be independent of both parties. If, therefore, you wish to furnish a communication in defence of your claims, you are at liberty so to do, and we should think that quotations from those letters from Mr. H., in which he makes certain propositions, might be of service to you.

Both parties are now placed face to face upon the tack of investigation, and a collision must take place unless one or the other parties will re-

verse their engine and *back out*, of which we presume there is no probability. A rush of business at this time will not permit a compliance with your request, of my coming down—could have done so last week. We go to press on Monday next; if, therefore, you wish to publish anything on the subject, it must come to hand previous to that day.

In conclusion, permit me to remark, that if you have occasion to address me again, please omit that threatening disposition expressed in yours of yesterday, as it cannot have the desired effect.

Most respectfully, yours,
C. W. SALADEE.

NEW HAVEN, April 7, 1855.

MR. C. W. SALADEE—*Dear Sir*.—I received a number of your Magazine from Mr. Lippencott, Richmond, Ia., with an illustration of Everett's Patent Coupling, and would say to you that these Everetts are practicing great fraud upon the public by selling a thing which does not belong to them, as I can fully make it appear by giving statements of facts which no doubt prove the priority of my inventions. The improvement represented in your Magazine is not described in Everett's letters patent, but really represents the improvement which the Everetts have taken from my model at the Patent Office, and adopted by them as their own. The improvement described in Everett's letters patent ought not to have been granted without regard to mine, as the law only allows the Commissioner of Patents to grant a patent for useful improvements, and the plan laid down in their letters patent is entirely impracticable. My papers were about a month prior received at the Patent Office, but the officers said that they were overlooked, by examination of Everett's Patent, and their patent was granted by mistake.

You will please insert the enclosed letter of Mr. L., of Richmond, Ia. You will also please to insert in your Magazine the following caution, which will be justice done to the public.

Respectfully yours,
G. HAUSSKNECHT.

CAUTION.

Whereas, there has been lately sold to sundry persons, patent rights, to use certain improvements in the running gear of carriages under the name of Everett's Patent Carriage Coupling; and whereas, these Everetts have misrepresented in the Coach-Makers' Magazine, and also by circulars, their improvement as described by them, notice is hereby given, that the Everetts are practicing wilfully great fraud upon the public by selling a thing which does not belong to them, either by virtue of invention, or as being included in the specification annexed to the letters patent,—that such patent right will give the purchasers no claim to the improvement sold under that name, but belongs exclusively to the subscriber or inventor and patentee thereof. All agents are hereby warned, and all persons requested to stay such proceedings whenever they may have occasion.

G. HAUSSKNECHT.

MR. HAUSSKNECHT—*Dear Sir*.—Your favor explaining in regard to patent coupling, &c., came duly to hand. I and my friends feel well satisfied that you are the real inventor; and at the same time we all think that you and the Everetts ought to settle it between yourselves and the Patent Office. It will be a burning shame if the ingenuity that devised so valuable an improvement to our craft shall be thus easily cheated. I myself am a practical mechanic, and will

ever stand true to our (as well as any other craft) that merits the name of a good mechanic, and if I were in your place, I would issue a circular giving a statement of the whole matter, and let the craft know of the imposition, and send the circular to every carriage manufacturer in the U. States; and also have your circular published in the Coach-makers' Magazine (edited and published in Columbus, Ohio, and also New York City, by C. W. Saladee) a very neat Magazine, and which is taken by all carriage makers in every section of country.

I am engaged in the manufacture of Carriages, which requires all my attention, but am willing to assist you as far as it is in my power, as it is to my interest to do so. But one thing is certain, what you do should be done at once, and as I have said before, not a moment should be lost. In conclusion I will say this,—I am willing to see that every carriage maker in our State is supplied with a circular, if you will furnish them to me, giving a short, clear history of the base fraud.

Respectfully, your friend and well wisher,
SAM'L R. LIPPINCOTT.

CIRCLEVILLE, May 17, 1855.

MR. C. W. SALADEE—*Dear Sir*.—Yours came to hand this morning. The suit between J. W. Gosling and Haussknecht will be tried on Saturday at 11 o'clock, A. M., at the Court House in Cincinnati, and I hope you will be there. You can then see the drawings of each of the patents, Everett's and Haussknecht's, and compare the principles and claims of each of the patentees, as full copies of each of these letters patent, drawings, specifications and claims are now before the court, and you will be able to take notes of the testimony of some of the most experienced and scientific men in Cincinnati regarding to the conflicting claims of the two patentees. You cannot be blind in regard to the two patents. E. and C. Everetts' patent is dated Dec. 17th, 1850; G. L. Haussknecht's patents, one dated Dec. 18th, 1851; the other Jan. 13th, 1852. Any persons examining the drawing and claims of each will see that Haussknecht's patent is entirely different in form and principle from Everett's, and the article he and his agent has been selling, is not in a single principle like his drawings or claim in his letters patent; and his agent A. J. Beaumont uses the same carriage and model he has used for over two years in selling it.

In regard to your advice in your postscript, I am much obliged, but always take my own course except when I take legal advice. You will find me at the Broadway Hotel, in Cincinnati, and I hope you will feel interest enough in protecting the craft to attend this trial on Saturday, and there learn the facts, &c.

Respectfully yours,
GEO. GILBERT.

Caution and Notice to Carriage-Makers.

Below I give the date of Edward and Charles Everetts' Patent Carriage Coupling, and also the dates of Gustavus L. Haussknecht's two patents for running gear to carriages, as taken from the records of the Patent Office at Washington, that every one interested in Everett's Patent may judge for himself; and as a further notice to all concerned, I will give good bonds to G. L. Haussknecht or any other persons, to the amount of one thousand dollars, agreeing to pay all expenses of every kind, if he or any of them will commence suit in the United States Court in the State of Ohio, against any person or persons who are now making and vending Everett's

Patent Carriage coupling, who have purchased the right from me, if said Haussknecht can make good his statement as published in the Coach-makers' Magazine, to the satisfaction of the Court and Jury, that he is the true inventor and owner of said patent coupling, and that the said Everetts procured their patent by fraud, as stated by said Haussknecht.

GEO. GILBERT,

Assignee of E. & C. Everett's Patent.
Circleville, Pickaway Co., O., May 18, 1855.

Patented, Dec. 17th, 1850.—What we claim as new therein, and desire to secure by letters patent, is the joint, on which the fore carriage turns, when placed in the rear of the fore axle, in combination with the segment on which the end of the perch rests, for the purpose of allowing the carriage to be turned in a small space, without having the fore wheels to run under the body, or interfere with the hind wheels.

EDWARD EVERETT, } Patentees.
CHARLES EVERETT, }

Patented, Dec. 18th, 1851.—What I claim as my invention, and desire to secure by letters patent, is—First, the employment of segments C D, and fifth wheels F G, (or parts corresponding thereto,) attached as described; the one segment D, and fifth wheel F, working on pivots between the front and hind axle, such parts acting in combination with I P, constructed substantially as shown and described, for coupling the movement of two axles, or their turning appurtenances, for the purposes set forth.

GUSTAVUS L. HAUSSKNECHT.

PATETED, JANUARY 13, 1852.

Improvement in Running Gear of Carriages.—I do not claim the use of one segment on which the end of the perch rests; neither do I claim two pivots attached to the body, but what I do claim as my invention, and desire to secure by letters patent is, the placing the pivot in the rear of the forward axle, in combination with the two sets or segments or circles, viz: segments A and C, seen at Fig. 2, or their equivalents, substantially as above described.

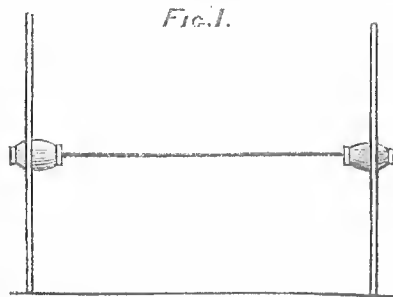
GUSTAVUS L. HAUSSKNECHT.

FLOWER'S CONTRIBUTIONS. — NO. 3.

As I promised in my last, I lay before you a rule to set an axle. The rule itself is explained in a few words, and is one that is attempted to be followed by many who fail in their attempts, for the simple reason that they do not get the first point right, which is its length.

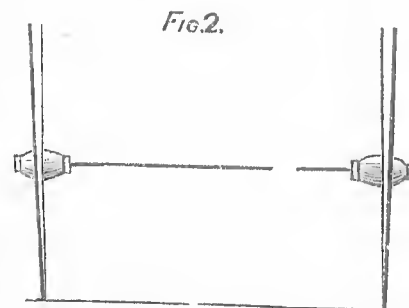
The rule that I would suggest, is, to set the axle so that the wheels will stand on a plumb spoke when they track. To do this the axle being the centre point, must be a certain length, but not the same length in all cases as is supposed by many who cut the bed four feet long for an eight feet track, regardless of the wheel in any respect. As I said before, many attempt to carry out this rule but fail. A case of this kind came under my notice not long since, which I will mention to show the error that many labor under. The case was this. I chanced to enter a smith-shop where I found the employer and several workmen consulting about a difficulty that had occurred in a carriage that one of the workmen was ironing. Apparently the front and back wheels were of the same height, for what reason I do not know. The workman had set the back axle to a four foot eight track; the wheels stood on a plumb spoke, and were three inches wider on the top than they were on the

track, which was perfectly correct, because each wheel dished three quarters of an inch. But when he came to set the front axle, he found that the wheels did not stand on a plumb spoke, nor were they the same width on the top as the back ones, but two inches wider. For the cause of this difficulty not one of the party could give a satisfactory reason, although each gave his opinion. The first thought the difficulty was caused by a difference in the height of the wheels. The second a difference in their dish. The third supposed there was a difference in the length of the axle. The fourth was positive there was a difference in the length of the hubs or boxes, but in measuring they found each point to be the same, so they abandoned their opinions and left the workman to settle the difficulty himself, and he followed the example of many others and put the work together as it was, thinking no one else would observe it. I at once saw the cause of this difficulty but did not speak of it as I was a stranger, and my opinion was not asked, but I will give it here, thinking it may come under the observation of that party, or some other that may be placed in the same situation. This trouble was caused by a mistake of the workman who made the wheels. He had placed the spokes in the hubs of the front wheels half an inch nearer their face than they were in the back ones, therefore this made the centre point one inch longer, that is measuring from the face of the spoke on one wheel to the face of the spoke on the other, which of course carrying the same level to the top, made that two inches wider. Now if any one of the party mentioned had understood the first principles of setting an axle, they would have seen the cause of the difficulty, or in other words, had they understood how to get the first point, that is its length, they would have avoided it. Now the means by which the correct length of an axle can be obtained is very simple, and requires but little explanation. It is merely to measure from the face of the spoke to the back of the hub on each wheel; add this together; deduct it from the track, and the remainder is the length of the axle. To make this more fully understood, I have introduced the accompanying plate, by which is represented four pair of wheels of the same height, and connected by axles of equal length; but the wheels differ in the length of their hubs and dish. By examining them you will see how the centre effects the extremes, and also see the necessity of following the rule I have suggested.



EXPLANATION.—Fig. 1 represents a pair of wheels four feet high, perfectly straight, with a seven inch hub, and measuring four inches from the face of the spoke to the back of the hub, which according to the rule leaves four feet for the length of the axle between the shoulders. You will perceive that these wheels stand perpendicular, and are the same width on the top as they are on the track, which may appear incorrect, but according to the rule they are correct, for they stand on a plumb spoke. By this illustration I hope to convince those of their error who so erroneously think, that in order to have

the wheels stand on a plumb spoke, it is necessary to have them four inches wider across the top than they are on the track. But again; if they will follow me I will convince them that there cannot be any particular width across the top; but that it is governed by the dish of the wheels providing they stand on a plumb spoke, as will be seen by Fig. 2, which represents a



pair of wheels of the same height, and the axle of the same length as Fig. 1, but the wheels dish three quarters of an inch, and stand wider across the top than they are on the track, which is caused by their dish as you will see.

The wheels being dished, and standing on perpendicular spokes, causes their rims to stand at an angle of 88 and throws the top of each wheel one inch and a half from the perpendicular line: thus making them three inches wider across the top than they are on the track. This experiment shows that a pair of wheels cannot be any wider across the top, than twice the dish of the wheel, added to the width of the track, unless they are effected by the centre as shown by

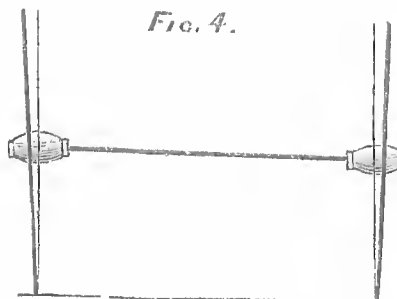
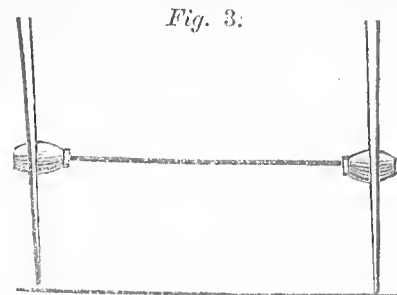


Fig. 3 and 4. Fig. 3 represents a pair of straight wheels, the same height and axle the same length as Fig. 1 with an eight inch hub; thus making the centre one inch longer, which throws the top two inches wider. You will see that the variation in the width is wholly caused by the centre; therefore the spokes cannot stand perpendicular. But again; by examining fig 4 you will see how a pair of wheels will stand when the variation is produced by the same causes that effect Fig's 2 and 3. It will be found by measuring, that this pair of wheels are five inches wider across the top than they are on the track. Three inches of this width being caused by their dish,

which is the same as Fig. 2. The remainder by the length of the centre, that being the same as Fig. 3 which is one inch too long. This experiment shows you that every inch the centre is too long, will throw the extreme two inches too wide, regardless of the dish of the wheels. Therefore the spokes cannot stand perpendicular.

With regard to the necessity of following the rules proposed, I will just ask you to look on the plate before you, and ask yourself the question, which pair of wheels are capable of bearing the most weight when in motion, and subject to the irregularities of a road. Having now explained and illustrated how the dish of the wheels and length of their centre influences their swing, as it is commonly called, it remains to show how the same effects their side range. In the first place let us see how this is generally supposed to be accomplished. Some think to gain this point by shortening the front axle. Others by lengthening it; and I have no doubt but each have thought that he accomplished his purpose by so doing. But I contend that it could not be gained by either, and cannot be accomplished by any other means than by a variation in the dish of the wheels as I will show, but leave you to experiment for yourselves. First, it is necessary in all cases, to have the front and back wheels to track the same; then in order to have them range, the top of the front wheels must not be any wider across than the back ones are at the same height. Now if the wheels are of the same dish, and each standing on perpendicular spokes, each pair will be the same width across the top. Now, if the centre of the front ones are shortened in order to contract the top, it will alter the position of the spokes. Again; should the centre be lengthened, and use the same or any pair of wheels, will not the position of the spoke be still altered. But suppose we have the centres as they were in the first place, and take a pair of wheels of a different dish and stand them on perpendicular spokes, will not this effect the purpose? It will, but what variation should there be in the dish I will leave for you to study.

F. J. F.

MISCELLANEOUS.

Our better half (who by the way is a very little half when standing side by side with 6ft 3,) has just stepped into our sanctum and laid the following lines and "romance of real life" upon our table, and requests that the same be inserted under this head. *Of course we can't refuse.*

SMALL SIZED LADIES.

In a little precious stone,
What splendor meets the eye!
In a little lump of sugar,
How much of sweetness lies!
So in a little woman,
Love grows and multiplies!
You recollect the proverb says—
"A word unto the wise."

A pepper corn is very small,
But seasons every dinner,
More than all other condiments.
Although 'tis sprinkled thinner,
Just so a little woman is!
If love will let you win her,
There's not a joy in all the world
You will not find within her.

And as within a little rose
You find the richest dyes,
And in a little grain of gold
Much prize and value lies;
As from a little balsam
Much odor doth arise,
So in a little woman
There's a taste of Paradise.

The skylark and the nightingale,
Though small and light of wing
Yet warble sweeter in the grove
Than all the birds that sing;
And so a little woman,
Though a very little thing,
Is sweeter than all other sweets,
E'en flowers that bloom in spring.

ROMANCE OF REAL LIFE.

The winding up of a romance in real life has recently taken place in the quasi official world of Paris. Thus runs the story: At a Court ball, some twenty years since, a young officer of the French cavalry met and was charmed by a beautiful English girl. He obtained an introduction, and danced with her as often as he could, without challenging the remark of his Grace, the young lady's papa. Our hero was handsome, amiable, witty, and in every way a person to win the good will of the fair sex. He was of good family, and had the aristocratic *de* affixed to his name, although he could boast no patrimonial estate. The young lady was of England's privileged class—both noble and wealthy. This, however, our lover did not know when first he bowed before the charms of beauty. Love begets love, and women are grateful; and the fair girl returned the young soldier's devotion. They met often—how or where we cannot say; but Paris is large, and English customs are convenient for young people. This was all charmingly agreeable, but unsatisfactory; for theirs was a flirtation with a serious intention affixed to it—marriage! At length our heroine discloses her wishes to her parents. They are horrified; their daughter marry a Frenchman—merely a lieutenant—a man without estate! It is not to be thought of. She listens to this decision in tears. A first weakness passed, however, she feels nature's dictate, and the strength which love gives. She next boldly and firmly declares to her parents that she loves the young officer with her whole heart, and *him alone* will she marry. That if they will not permit her to judge of her own happiness, she can wait until she is of age, when the clergyman may marry them without parental leave. My lord and my lady are made conscious that their fair and gentle daughter has a will of her own, and also a patient determination to gratify that will. They come to a parley, and enter into negotiations with the young people. The lovers are to be separated for two years—it shall not be considered an engagement—and the young lady shall receive the addresses of other suitors. On the other hand, the lovers are to be permitted to correspond, and if they remain lovers at the end of two years, they shall marry with full consent and approbation. The young lady consoles her anxious lover with assurance that *her* love is unchanged, and that the two years' absence will only serve to prove their affection for each other, and endear them to one another still more. They part. The English party return home. During a month, they exchange letters daily—and such letters: Of what a length, and how full of terms of endearment and love they were. How very poor language seemed to them: But one day our fair heroine listened in vain for the postman's knock, so well known to every Londoner. He came not. The next day passed, and the next—and no tidings; and thus many days passed, and brought disappointment only. Weeks lengthened into months and no letter cheered the sick heart of the poor girl. The third month came round, and her hopes became faint. Then My Lady consoled with her daughter, upbraided the young soldier, and urged the acceptance of Lord ——— as a suitor for her hand. "It was thus that a true English heart should resent an insult." Three months more pass. Meanwhile the unhappy damsel writes letters and sends them in every possible way, in the hope of obtaining an explanation of this long silence. None comes; doubt becomes conviction—she is deserted. She stifles the love in her heart, and

pride comes to strengthen herself respect. Having no longer a desire of her own, she yields to that of her mother. "My Lady, I will marry Lord ———, but since I have so decided, let us be married quickly." It was done. Fifteen years pass by. Our heroine is a widow! Five years more, and "My Lady" lies ill unto death. She calls her daughter to her bedside, and confesses that she had detained the letters of the young officer—that he had been faithful. The proofs of it were by the hundred in such a desk. "My Lady" dies. Our heroine seeks those letters of the lover of her youthful days, and finds heaps of his, and also those she had written, in the vain hope of obtaining an explanation of his silence. Twenty years of disappointment were forgotten in reading the ardent expressions of affection and devotion which they breathed. She was young again, and her heart had known no care—it was again the spring time of her life. She took these letters with her, and went to Paris. She sought information from the Minister of War, of him who was lieutenant in the cavalry in 1834. The authorities replied that the lieutenant of that time was now commanding general, and that he was stationed in one of the Southern Departments. The widow wrote to the general that she was at Paris, and desired to see him. He obtained leave of absence and hastened to meet the lady. All is explained, and our lovers are married. To be sure the general is no longer young; but his manners have the same charm, and his elegance and style lessen his apparent age. The lady carries her inadmissible 40 years as if they numbered but 30. The latter twenty years of their lives are likely to be happier than either of the first. And so ends a real life romance, that is very like one in a story book.

SCHAMYL AND HIS SON.—Our foreign exchanges inform us that this old veteran of the mountain has recently had his heart made glad by the return of his son, who eleven years ago, when of tender age, had the misfortune to be taken prisoner by the Russians. Since then Schamyl had not heard of the boy, and long ago gave him up for lost. It appears, however, that when he was captured, the Russian general, Prince Worogzoff, sent him to St. Petersburg, where the late Emperor took a liking to the lad, and had him educated at the Military Academy. It happened last year that Schamyl, in some sudden surprise, took several Russian ladies prisoners, amongst whom was the Princess Tscharawaddy. They were conducted to one of Schamyl's mountain fastnesses and confined there as prisoners of war, but treated with the respect and decorum due to their rank and sex. The Governor-general of Tiflis sent a flag of truce to Schamyl to demand the release of the captured ladies, offering a large sum of money and the liberty of several Circassian ladies who had been made prisoners by the Russians. But Schamyl replied, that if his son were alive, and the Russians would restore him, he would release all the lady captives. The Emperor Nicholas sent for young Schamyl, gave him his liberty, and fitted him out with the needful equipment to undertake the long journey. The exchange took place in the end of January. Young Schamyl, who, when at St. Petersburg, was not required to abjure the Moslem creed, has profited by his involuntary *sejour* at the Russian capital, and has now returned to his overjoyed father an accomplished cavalier, with a comparatively civilized education. It is said that he entertains great gratitude to the Emperor for his personal treat-

ment, and it is not impossible that his return to his native mountains may have an effect on the future mode of Circassian warfare, and the introduction of more civilized manners and customs generally amongst his countrymen. The following was related by one of the Prussian officers of the 6th Givassiers (Emperor of Russia), who were sent in the year 1842 to St. Petersburg as a deputation from the regiment to congratulate the Czar on his having been five and twenty years colonel of that corps. Nicholas, who received the officers with marked distinction, took them *in propria persona* to inspect his different military establishments, and amongst others to the School for Cadets, where all the lads were drawn up in the long hall. The Emperor, closely followed by the Prussian officers, walked down the line, when he suddenly stopped before one of the youngest cadets, patted his cheeks with both hands, and then lifting him up, kissed him most affectionately. Then, turning to the Prussians, he said: "Gentlemen, you will never guess who this lad is. He is the son of my most bitter enemy, the Circassian chieftain Schamyl, who has placed him under my care for his education!"

MISDIRECTION OF INDUSTRY—PREJUDICES AGAINST THE MECHANICAL TRADES.

BY J. FROST.

Among the many causes which have led to the present depressed state of affairs in our country, there is one which appears to me an efficient one, although it has been in a great measure overlooked. This is the misdirection of industry—of productive labor. All observers readily perceive that *capital* has been thrown away; few take notice of the fact that hands and heads have been employed on works that are now known to be utterly useless. Railroads, for example, have been constructed, which can never, by any possibility, be required for the public accommodation to such an extent as to pay the expense of keeping them in repair and employing lines of cars upon them. Mines have been opened and wrought in situations where no veins of metal existed, although the imaginations of the stockholders, aided by the fine stories of some cunning Douterswivel, had made each of the regions a perfect El Dorado. Even agricultural labor has been misapplied; for trees have been planted and nursed with the greatest care, under the impression that their leaves were to be converted into silks which should rival the fabrics of Lyons and Benares; and yet these very trees have subsequently been cut down as lumberers of the ground.

The productive industry of this country might just as well have been employed in the construction of pyramids, like those of the ancient Egyptians, as on works of this nature. It is literally labor, time, and talents thrown away.

But these are not the only ways in which labor, time and talent have been misdirected. Thousands of our young men have entered the learned professions when they were already crowded, and consequently wasting their lives in vain hopes; and other thousands have devoted themselves to the pursuits of commerce without capital, prudence, or intelligence sufficient to avoid the dangers of commercial enterprise; and these men are now either bankrupts, or involved in a series of embarrassments which may last through their whole lives. An error in the choice of one's profession is one which is followed by painful consequences, as many have found to

their cost. In this country we are apt to be too ambitious and restless. The freedom of our institutions, instead of impressing upon us the wholesome lesson that all men are naturally equal in dignity, and that consequently every trade and profession may be ennobled by the personal merit of its members, leads men to aspire to certain professions which they esteem genteel; and to high offices which the constitution has made attainable by citizens of all classes.

This is wrong. An American should respect himself. A citizen of this republic should deem himself a peer of the world—one of nature's noblemen. He should consider that the circumstance of his being an American citizen is sufficient to adorn with all proper dignity any trade or profession which he may adopt. Having settled this point with himself, he is left at perfect liberty to look around with an unprejudiced mind, upon the different modes of obtaining subsistence and making himself useful to the community; and he can make his choice among the same principles that should govern him in deciding any practical question. In taking a survey of some large community with reference to the success which has attended the exertions of other men, in order to aid his judgment in the choice of a profession, the youth or his adviser may peradventure, arrive at some results which he did not anticipate.

Suppose, for example, that he should examine the comparative success of those men whom we know to have devoted themselves to *mechanical* trades, and those who have become *merchants*. Would it not be apparent that where one mechanic has failed and caused extensive losses to his friends and the community, ten merchants have done the same thing? On the other hand, would it not appear that where one merchant had acquired a competent fortune and retired from business in the decline of life, several mechanics have done the same thing? If we were to run over the list of persons taxed for real estate, should we not find more mechanics than merchants living in their own houses, and deriving a handsome income from their rents?

If it be said that this is not a fair test of comparative success, let another be resorted to. Take the whole number of persons employed in mechanical trades, and the whole number of persons employed in commerce, say for the last twenty years; then calculate what per centage of each class has failed, what per centage has gained a decent subsistence without failing, and what per centage has arrived at what is called independence. The result of such an inquiry would satisfy the inquirer that it is a safer course to become a mechanic than to be a merchant.

The prejudice against the mechanical trades is a relief of feudalism unworthy of our free country. Considered with reference to those old feudal prejudices, all the pursuits by which bread is earned in our country are equally base. Considered in the light of republican philosophy, they are all equally honorable. The baron of the middle ages, who could not read or write, looked down upon the merchant, the mechanic, and the lawyer with equal contempt; and the baron of modern days, who cannot even wield a lance, considers himself superior to the greatest, wisest, and best of those who were born commoners. These old feudal prejudices are ridiculous. But when we call one profession *respectable*, and another *less respectable*, do we not adopt them? When we talk of degrading ourselves by making tradesmen of our sons, do we not give sanction to the stupid and exploded notions of the dark ages? When we admit that any citizen may *lose caste* by associating with

any other honest and honorable man, do we not submit to a barbarism worse than Gothic—the barbarism of Hindostan and China?

Such notions should be laid aside with other useless lumber, as unfit for an age and a country where common sense gives law to society, and where real merit stamps the seal of respectability. It is but fighting shadows to offer arguments in opposition to such views.

CASE HARDENING, (in Metallurgy.)

The operation of giving a surface of steel to pieces of iron, by which they are rendered capable of receiving great external hardness, while the interior portion retains all the toughness of good wrought iron. Iron tools, fire-irons, fenders, keys, &c., are usually case hardened.

Proc. 1. The goods, finished in every respect but polishing, are put into an iron box, and covered with animal or vegetable charcoal, and cemented at a red heat, for the period varying with the size and description of the articles operated on.

2. Cow's horn or hoof is to be baked or thoroughly dried, and pulverized. To this add an equal quantity of bay salt: mix them with stale chamber-lye, or white wine vinegar: cover the iron with this mixture, and bed it in the same in loam, or enclose it in an iron box: lay it then on the hearth of the forge to dry and harden: then put it into the fire, and blow till the lump have a blood-red heat, and no higher, lest the mixture be burnt too much. Take the iron out, and immerse it in water to harden. (Moxon's Mechanic Exercises.)

3. The iron, previously polished and finished, is to be heated to a bright-red, and rubbed or sprinkled over with prussiate of potash. As soon as the prussiate appears to be decomposed and dissipated, plunge the article in cold water.

4. Make a paste with a concentrated solution of prussiate of potash and loam, and coat the iron therewith; then expose it to a strong red heat, and when it has fallen to a dull red, plunge the whole into cold water.

Remarks. The process of case hardening has been well conducted when the surface of the metal proves sufficiently hard to resist a file. The last two plans are a great improvement upon the common method. By the topical application of the prussiate, (as in 3,) any part of a piece of iron may be case-hardened, without interfering with the rest.—Coolidge.

[From the Scientific American.]

STEAM CARRIAGES FOR COMMON ROADS.

J. K. Fisher proposes, through the *Westchester Journal*, to build a steam carriage to run between certain villages in Westchester County and this city, on the common roads. He offers to pledge a gallery of paintings for the success of the undertaking, and he wishes the residents of those villages to form a joint stock company for the purpose of providing funds to construct as many of those carriages as may be necessary to try the scheme. We really hope the people of the Westchester county villages will form such a company, and if they can be secured (as they should be) against loss, by the proposer, they should embrace his proposition. We have said, and are positive, that steam carriages cannot *pay* on common roads; also that the accounts which have been printed of the performances of steam carriages in England were more highly colored than were those of the hot-air engines among ourselves, but if those who think they know better than we do about such things are willing to

guarantee their success and provide some means to secure the stockholders in case of failure, who can find fault with the proposition? It is a fair one, and we, above all other persons, hope it may be put in practice, in order to test the question by the only method of convincing without controversy.

[Continued from Page 50.]

For Saladee's Magazine.

IRON AND STEEL.

QUESTIONS WITH ANSWERS.

Why is steel used for making cutting instruments?

Because it combines the fusibility of cast with the malleability of bar iron, and when heated and suddenly cooled, becomes very hard.

The rapidity with which razors, knives, &c. are produced from the raw material, is truly astonishing. Thus in the workshops at Sheffield, we may in a few minutes see dinner knives made from the steel bar and all the process of hammering it into form, welding the tang of the handle to the steel of the blade, hardening the metal by cooling it in water and tempering it by de-carbonizing it in the fire.

The number of hands through which a common table-knife passes in its formation is worthy of being known to all who use them. The bar steel is heated in the forge by the maker, and he and the striker reduce it in a few minutes into the shape of a knife. He then heats a bar of iron and welds it to the steel so as to form the tang of the blade which goes in the handle. All this is done with the simplest tools and contrivances. A few strokes of the hammer in connection with some trifling moulds or measures, attached to the anvil, perfect, in two or three minutes, the blade and its tang or shank. Two men, the maker and striker, produce about nine blades in an hour, or seven dozen and a half per day. The rough blade thus produced, then passes through the hands of the filer, who files the blade into form by means of a pattern in hard steel. It then goes to the hafter to be hafted in ivory, horn, &c., and then to the finisher. In this profession, every table-knife, pocket-knife, or pen-knife, passes, step by step, through no less than 16 hands or 144 separate stages of workmanship.

Sheffield employed about 15,000 persons in these departments, four years since:

On table-knives	2,240
On spring-knives	2,190
On razors	478
On scissors	806
On files	1,284
On saws	400
On edged tools	541
On forks	480
In the country	130
In the plated trade nearly	2000

About 10,549

Besides those who are employed in Britannia-metal ware, smelting, optical instruments, grinding, polishing, &c., &c., making full 500 more. There are full 1,700 forges engaged in the various branches of the trades, and of course as many fires.

Why are the most minute instruments generally made with good steel?

Because it is much more ductile than iron: a finer wire being drawn from it than from any other metal.

Why is Wootz or Indian steel the most valuable for making edge tools?

Because it is combined with a minute portion

of the earths, alumina, and silica; or rather perhaps, with the bases of these earths. Whether the earths are found in the ore, or are furnished by the crucible in making the steel, is not certainly known; nor is the Indian steel-maker probably aware of their presence. Wootz, in the state in which it is imported, is not fit to make into fine cutlery. It requires a second fusion, by which the whole mass is purified and equalized, and fitted for forming the finest edge instruments.—*Brande.*

Why does a razor operate best when dipped in hot water?

Because the temperature of the blade has then been raised, and the fineness of the edge proportionally increased.

In some experiments, the knife edges attached to a pendulum described by captain Kater, in *Phil. Trans.* 1818, on being carefully hardened and tempered in the bath at 432°, were, on trial, found too soft. They were a second time hardened, and then heated to 212°, at which point the edges were admirably tempered. This, it will be remembered, is the heat of boiling water, and further illustrates the preceding question.

In the manufacture of a razor, it proceeds through a dozen hands; but it is afterwards submitted to a process of grinding, by which the concavity is perfected, and the fine edge produced. They are made from 1s per doz., to 20s. per razor, in which last the handle is valued at 16s 6d.—Scissors, in like manner, are made by hand, and every pair passes through sixteen or seventeen hands, including fifty or sixty operations, before they are ready for sale. Common scissors are cast, and when rivetted, are sold as low as 4s 6d per gross! Small pocket knives too are cast, both in blades and handles, and sold at 6s. per gross, or a half penny each! These low articles are exported in vast quantities in casks to all parts of the world.

ZINC.

Why is zinc useful in the arts?

Because, in combination with copper or tin, in various proportions, it forms some of the most useful compound metals, or alloys. Thus, with copper, it constitutes brass, pinchback, and tom-bac; with little copper, Prince's metal; with tin and copper, bronze.

Roofs covered with zinc are very numerous in the Low Countries but have one bad quality. In cases of fire, the zinc being very combustible, soon becomes inflamed, and falling all around, occasions great danger to those who approach the building. In short, zinc is the most combustible metal we have. If beaten out into thin leaves it will take fire from the flames of a common taper.

Why has the oxide of zinc been substituted for white lead in painting.

Because it preserves a good color much longer: it is not, however, of so perfect a white as lead.

TIN.

Why did the ancients mix tin with their copper coins and edge tools?

Because it occasioned the coins to wear longer, and it imparted sufficient hardness to the copper to render it capable of forming very good cutting instruments. Mr. Parkes, in analysing several Roman brass coins, from various periods of the Empire, found tin to be a component part in all of them.

Why is not Spanish tin used in this country?

Because it bears a prohibitory duty of 30l. per cent. It is raised in great quantities in South America, and is very pure, but not so neatly manufactured as the Cornish tin. According to

Aristotle, the tin mines of Cornwall were known and worked in his time. Diodorus Siculus, who wrote 40 years before Christ, describes the method of working these mines, and says, that their produce was conveyed to Gaul, and thence to different parts of Italy. The miners of Cornwall were so celebrated for their knowledge of working metals, that about the middle of the 17th century, the renowned Beecher, a Physician of Spire, and tutor of Stahl, came over to this country to visit them.

A celebrated tin mine was the famous *wherry mine*, near Penzance. The shaft through which the miners went down to work, was situated nearly 100 yards below water mark. "The opening of this mine," says Dr. Maton, "was an astonishingly adventurous undertaking. Imagine the descent into a mine through the sea, the miners working at the depth of 17 fathoms below the waves; the rod of a steam engine, extending from the shore to the shaft, a distance of nearly 120 fathoms, and a great number of men momentarily menaced with an inundation of the sea, which continually drains in no small quantity through the roof of the mine, and roars loud enough to be distinctly heard in it." The working of this mine was wholly given up in the year 1798.

Such is the mineral wealth of Cornwall, that it contains more men, who possess fortunes, sprung from the mines, of five and from that to twenty thousand pounds, than there are in any other county of England, excepting the metropolis and its vicinity; and there are some instances of individuals acquiring from fifty to two hundred thousand pounds from the mines, and by a fortunate course of trade.

Why should tin be chosen for its lightness?

Because its purity is in exact ratio with its levity; while gold, on the contrary, unless alloyed with platinum, is fine in proportion to its destiny.

Why is tin so important to the dyer?

Because it is employed to give a brightness to cochineal, archil, and other articles used in forming reds and scarlots; and to precipitate the coloring matter of other dyes. For these purposes it is previously dissolved in a peculiar kind of aqua fortis, called dyers' spirit.

Tin is consumed in large quantities by the dyers; it is also used for covering sheet iron to prevent its rusting, and in forming plumbers' solder, speculum metal, pewter, and some other alloys. Its oxides are used in polishing glass, in glazing some kinds of earthenware, &c.

Why is tin-plate so called?

Because it is made by dipping clean iron plates into melted tin. When tin-plate is washed over with a weak acid, the crystalline texture of the tin becomes beautifully evident, forming an appearance which has been called *moire metal-lique*.

Why are pins whitened by boiling in grain-tin and supertartrate of potash?

Because the tartaric acid first dissolves the tin, and then gradually deposits it on the surface of the pins, in consequence of its greater affinity for the zinc, of which the brass wire is composed.

Why are the Stannary Courts so called?

Because they regulated the affairs of the tin (*Stannum*, Latin,) mines, and determined causes among the tinners, whether criminal, or actions for debt. At Lydford, on the borders of Dartmoor, was one of the Stannary prisons: hence the Devon and Cornwall saying:

"First hang and draw,
Then hear the cause by Lydford Law;"

or Lydford Law, by which they hang men first and try them afterwards. J. E. M.

EARLY HISTORY OF WHEEL CARRIAGES.

CONTINUED.

CHAPTER IV.

In the year 1564, Guillian Boonen, a Dutchman, became the Queen's coachman, and was the first that brought the use of coaches into England. After a while divers great ladies (with as great jealousy of the Queen's displeasure,) made them coaches and rode up and down the country in them, to the great admiration of the multitude of beholders. But step by step the nobility of England dared to make common use of them among themselves, but strictly limited to such only. But time rolled on, as time ever does, and in the revolution of twenty years there is established a great trade of coach making. In little more than thirty years a bill was brought into Parliament to restrain the excessive use of coaches. One of the most signal examples we are able to find of the growing importance of the middle classes, is exhibited in their rapid appropriation to their own use of the new luxury which the highest of the land ventured at first to indulge in timidly, and with jealousy of the Queen's displeasure. It was in vain, however, that Parliament legislated against their excessive use; it was equally in vain that citizens and citizens' wives who aspired to ride in them were ridiculed by the wits, hooted by the mob, as in the diffusion of every other luxury or convenience introduced by the rich; the distinction of riding in coaches soon ceased to be a distinction, so the proud Duke of Buckingham, seeing that coaches with two horses were all the go, and that the nobility had only the exclusive honor of four horses, he set up a coach with six horses, and then the stout Earl of Northumberland established one with eight horses. Massinger in the "City Madam" exhibits Annie Frugal demanding of her courtly admirer—"my Caroch drawn by six Flanders mares, my coachman, groom, postillion and footman."

The high born and the wealthy soon found that those who had been long accustomed to trudge through the miry streets, or on rare occasions to bestride an ambling nag, would make a ready way with money to appropriate the new luxury to themselves, coaches soon came to hire; they were to be found in the suburban districts and inns within the town. Taylor (who writes in 1623) says: "I have heard of a gentlewoman who sent her man to Smithfield from Charing Cross for the purpose of hiring a coach to carry her to Whitehall. Another did the like from Indgate Hill to be carried to see a play at the Black Friars." He imputes this anxiety for the accommodation of a coach to the pride of the good people, and he was probably right. He gives us a ludicrous example of the extent of this passion in the case of two leash of oyster wives who hired a coach to carry them to the Green Goose Fair at Stratford-the-Bow, and as they were hurried betwixt Aldgate and Mile-End, they were so de madam'd, de mistress'd and ladyfied by the beggars, that the foolish women began to swell with a proud supposition of imaginary greatness, and gave all their money to the mendicant canters.

The rich visitors who came to London from the country were great employees of coaches, and Taylor tells us that the proclamation concerning the retiring of the gentry out of the cities into the country, somewhat cleared the streets of these way-stopping whirligigs, for a man now might walk without bidding "stand up, ho!" by a fellow that can scarcely either go or stand himself.

It is easy to conceive that in those days of ill paved and narrow streets the coaches must have been a great impediment to the goings on of London business, the Water Poet is alive to all these conveniences: Butchers cannot pass with their cattle for them; market folks who bring provisions to the city are stopped, stayed and hindered; carts or wains with their necessary wares are debarred and letted; the milk maid's ware is often spilt into the dirt; and then he describes how the proud mistresses, sitting in their hell-carts—(Evelyn tells us that this was the Londoners' name for a coach long after) ride grinning and deciding at the people, crowded and scrouged up against stalls and shops. D' Avenant some forty or fifty years after notices the popular feeling: Master Londoner, be not so hot against coaches. But the coaches flourished in spite of the populace. The carmen might drive up against them, and the coachman with six noblemen sitting together might be compelled to stop, and give place to as many barrels of beer. They flourished too in spite of the roads. It is a most uneasy passage in coaches on the paved streets of London, wherein men and women are so tossed, tumbled, jumbled, rumbled, &c., in the crossing of kennels, dung hills and uneven ways. It is affirmed in a pamphlet quoted by Markland, entitled "Coach and Sedan," that in 1636 the coaches in London, the suburbs, and within four miles compass without, are recorded to the number of six thousand and adds: The title runs thus: (we quote from the Archaeologia,) coach and Sedan; a pleasant dispute for precedence, the Brewer's cart being moderator, 1636. They are thus described: The one (sedan) was in a suit of green, after a strange manner, windowed behind and before with izinglass, (tales,) having two handsome fellows in green coats attending him,

the one always went before, the other came behind. Their coats were laced down the back with a green lace, suitable to the rest of the garment; so were their half sleeves, which persuaded me at first they were some east suits of their masters. Their backs were harnessed with leather angles, cut of hide as broad as Dutch collops of bacon. The other, (coach) was a thick, burly, square set fellow, in a doublet of black leather, brass buttoned down the breast, back, sleeves and wings, with monstrous wide boots, fringed at the top with a net fringe, and a round breech gilded, and on the back an achievement of sundry coats in their proper colors, &c., &c. He had only one man before him, wrapped in a red cloak, with wide sleeves, turned up at the hands, and cudgelled thick on the back and shoulders with broad shining lace, (not much unlike that which mummers make of strawen hats) and on each side of him went a lacquey, the one a French boy, the other Irish, both suitable alike. During the argument Coach has somewhat the worse of it.—Sedan speaks: And Coach twice or thrice a year you must needs take a voyage to London with your lady under a collar, to be new collared, gilded or painted, covered, seated, shod or the like; when her errand indeed is as one sayeth well, speaking to such ladies who love to visit the city—

To see what fashion most is in request,—

How is the Countess, that court lady dressed.

Hence it happens, Coach, that by your often ambling to London, Sir Thomas, or Sir John sinks as in a quicksand, by degrees so deep into the merchant, mercer or lawyer's book, that he is up to the ears ere he is aware, neither can he be well drawn out, without a team of usurers and a crafty scrivener to be the fore-horse, or the present sale of some land, so that wise men suppose to be one main and principal reason, why within a coach journey of a day or two from the city, so many fairy inheritances as have been purchased by Lord Mayors, Aldermen, Merchants and other rich citizens, have not continued in a name to a third—yea, scarce to the second generation; when go far north or westward, you shall find many families and names of nobility and gentry to have continued their estates two or three hundred years, and these in a direct succession. The moderator (beer cart) seems an apt disciple of the lawyer who made the celebrated oyster decision, for he thus finishes the dispute: Coach and Sedan, you both shall reverence and give way to Beer-cart wherever you shall meet him, either in country or city, as your ancient and elder brother.

In the first day's entertainment at Rutland House, this despotism of Beer-cart is appealed against in a disputation between a Parisian and a Londoner, who contended for the superiority of national cities. We give the extract, and it seems to imply the superiority at that time of the coaches of Paris to those of London, as the Frenchman remains unanswered. The song being ended, a concert of instrumental music after the French composition being heard. The curtains are suddenly run up, and in the rostras appeared sitting a Parisian and a Londoner, in the livery robes of both cities, who declare concerning the preeminence of Paris and London. The opening address of the former deserves quotation:

"You of this noble city are yet to become more noble by your candor to the plea between me a Bourgeois of Paris and my opponent of London, being concerned in honor to lend me your attention as favorably to a stranger, as to your native orator, since it is the greatest sign of a narrow education to permit the borders of rivers and the sands of seas to separate the consanguinity of mankind, though the unquiet nature of man (still hoping to shake off distant power, and the incapacity of any one to sway universal empire) hath made them bound to divide government. But already I think it necessary to cease persuading you who will ever deserve to be my judges, and therefore mean to apply myself in admonishing him who is pleased to be awhile my adversary."

He does admonish him, and wisely, too, on his national conceit, on his imperfect system of education, and other subjects of different import to the one directly before the reader. After some remarks in regard to the overhanging buildings of the city, he continues, "I now have left your houses, and am passing through your streets, but not in a coach; for they are uncasily hung, and so narrow that I took them for a sedan on wheels. Nor is it safe for a stranger to use them, till the quarrel be decided, whether six of your nobles sitting together shall stop and give place to so many barrels of beer. Your city is the only in Europe where there is a wonderful dignity belonging to carts. Master Londoner be not too hot against coaches, take advice of one who eats much sorrel with his broth."

The fever against the use of coaches,—nay, coaches themselves, (vide Bishop Hall who calls them sin guilty,) continued to rage; the watermen turned to firemen in their fury, and others with less interested motives, but with equal absence of reason, crying out for their suppression.

Coaches and sedans, (quothe the waterman,) they deserve both to be thrown into the Thames, and but for stopping the channel, I would they were, for I am sure (now comes the gist of this and many a modern objector) where I was wont to have eight or ten fares in a morning, I now scarce get two the whole day.

TO BE CONTINUED.

THE COACH-MAKERS' MAGAZINE.



OFFICE
OF THE

Coach-Makers' Magazine.

At this Office the craft can be accommodated with all kinds of printing pertaining to the business, such as

ILLUSTRATED SHOW CHARTS, with advertisement for their business, CARDS & ENVELOPS of every description. Also, SEALS, STAMPS and every style and kind of ENGRAVING, including Wood, copper and Steel, all of which will be executed in the best style of the art, and on the shortest notice.

Houses advertising in the COACH-MAKERS' MAGAZINE, who are desirous of representing their buildings in such advertisement, can be accommodated by sending a daguerreotype of the same.

Prices of Illustrated Show Charts for Coach-makers, 18 by 24 inches, on fine plate paper, two colors, and representing 13 fashionable carriages, with such reading matter in the centre as may be desired, per 100 plates, \$20.00. Same on common paper, per hundred, \$10.00.

All orders must be accompanied with either of the above amounts, and the charts will be forwarded within one week from the time the order is received. Direct to the Editor (at his residence) Columbus, Ohio.

June 1855.

TO COACH HARDWARE & TRIMMING MERCHANTS & MANUFACTURERS.

All persons engaged in the above business, can now have the opportunity of introducing their houses to over twelve thousand Coach-Makers throughout the United States and Canada by advertising in the COACH-MAKERS' MONTHLY MAGAZINE, a Journal which is devoted exclusively to the art of coach-making in all its various branches. This is the only medium through which such houses can advertise to good advantage.

TERMS OF ADVERTISING.

Standing advertisements \$12.00 per square for one year; (twelve lines making a square,) payable within three months from the time of first insertion.

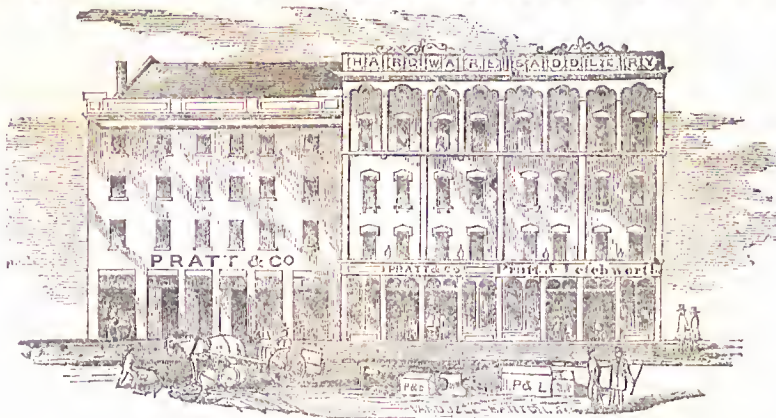
All advertisements for a shorter time than twelve months are charged 50 cts per line for each insertion; Payable in advance.

SAMUEL F. PRATT,

PASCAL P. PRATT,

WM. P. LETCHWORTH.

PRATT & LETCHWORTH,



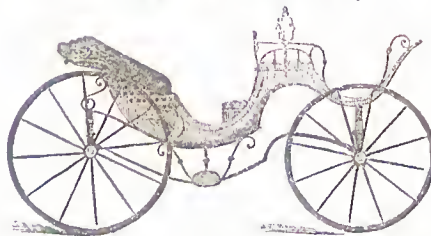
MANUFACTURERS, IMPORTERS & DEALERS IN EVERY DESCRIPTION OF
SADDLERY, COACH & TRUNK HARDWARE,

Have removed to the Buff-Color Brick Store, No. 34 Terrace Street,
Opposite the Western Hotel, and adjoining the Hardware Store of Messrs. Pratt & Co.

BUFFALO, N. Y.

[June 1855.]

JOHN M. FORD,



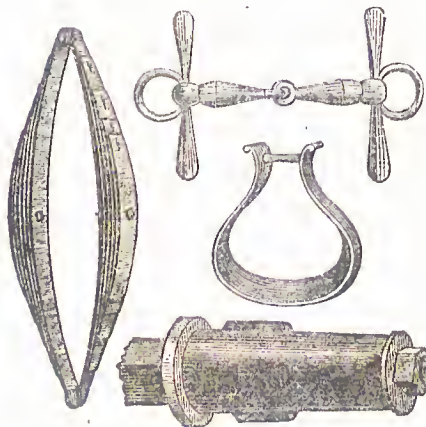
IMPORTER, MANUFACTURER & DEALER IN
**SADDLERY, COACH HARDWARE
AND TRIMMINGS,**

No. 32, North Third Street, Philadelphia.

PURCHASERS will find it to their advantage to examine my Stock, which is very extensive, and purchased for Cash; and consists in all the variety of New Styles of Goods in my line.
N. B.—All Orders shall have particular and prompt attention.
June 1855.

H. & G. FRICKE,

No. 14 North Third Street, Opposite Church Alley,
PHILADELPHIA.



IMPORTERS AND MANUFACTURERS OF
SADDLERY & COACH HARDWARE.

Has constantly on hand Patent Leather of all descriptions, Springs of all kinds, Axles of every description, Malleable Iron, Spokes and Hubs, Felloes and Shafts, Carriage Bolts, Couplings for Axles and Shafts, Enamelled Cloth of all descriptions, Dashes, Knobs and Joints, Curled Hair and Moss, Turned Wood Work, Webbing of all kinds, Saddlers' and Coach-Makers' Tools, Oil Cloths of all descriptions, Fringes and Laces.
All Quality and Price as favorable to purchasers as can be bought in the United States.
N. B.—Terms Cash or 6 months.
[June 1855.]

CARRIAGE TRIMMINGS.

P. & T. HAYDEN,

MANUFACTURERS, IMPORTERS & DELERS IN

SADDLERY & COACH HARDWARE

AND CARRIAGE TRIMMINGS.

In all their Variety,

No. 79 Beckman St., New York.

THE subscribers having removed from their old stand on Pearl Street, to the new and commodious Ware House, No. 79 Beckman St., are now prepared to offer to dealers the most complete assortment of Goods in their line, to be found in any house in the United States.

Their facilities for manufacturing and importing are not excelled by any.

TERMS—6 months, with satisfactory references, or 5 per cent. discount for Cash.

June 1855.

P. & T. HAYDEN.

WHEELER BROS., CALLED B. TICKNER, EDWARD STERLING.

SPRING PERCH COMPANY,
JOHN STREET, BRIDGEPORT, CONN.,

MANUFACTURERS OF
**COACH & CARRIAGE TEMPERED
SPRINGS,**

Patent & Half Patent Axles,

Tomlinson's Patent Spring Perches.

BANDS, CALASH TRIMMINGS, CURTAIN ROLLERS, &c.
WE respectfully solicit the patronage of those who are making the first class Carriages. We believe we have deservedly acquired the reputation of manufacturing the best articles in our line in the country. Our Springs are made from the best English Spring Steel, (which is made expressly for us from Sweden's Iron) and are all thoroughly tested before they leave the Factory. Our Axles are of the best Salisbury Iron, and our Carriage Trimmings are made in the latest and most approved styles.
SPRING PERCH COMPANY.
E. STERLING, Sec'y.

June 1855.]

WILSON & HAYDEN,
IMPORTERS & MANUFACTURERS OF

Every Description of

**COACH HARDWARE
AND TRIMMINGS,**

No. 17 & 19, West Columbia St.,
CINCINNATI, O.

GOFF & PETERSON,
IMPORTERS & MANUFACTURERS OF
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PLATE XIII.

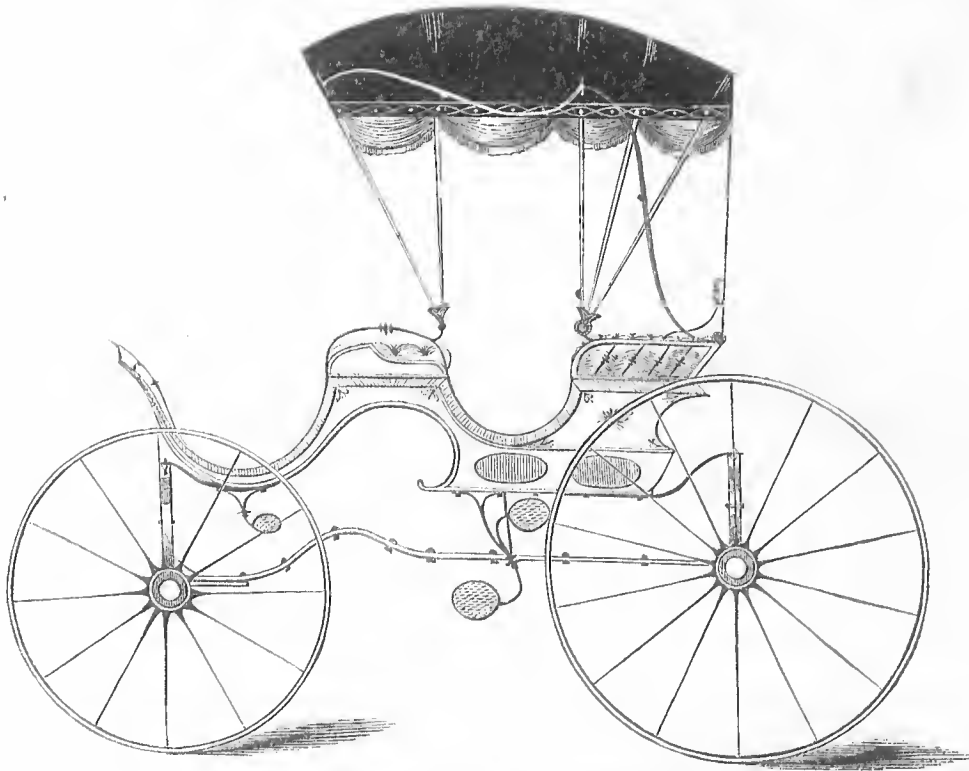


Fig. 36.—Terrill Phaeton—Extension Top.

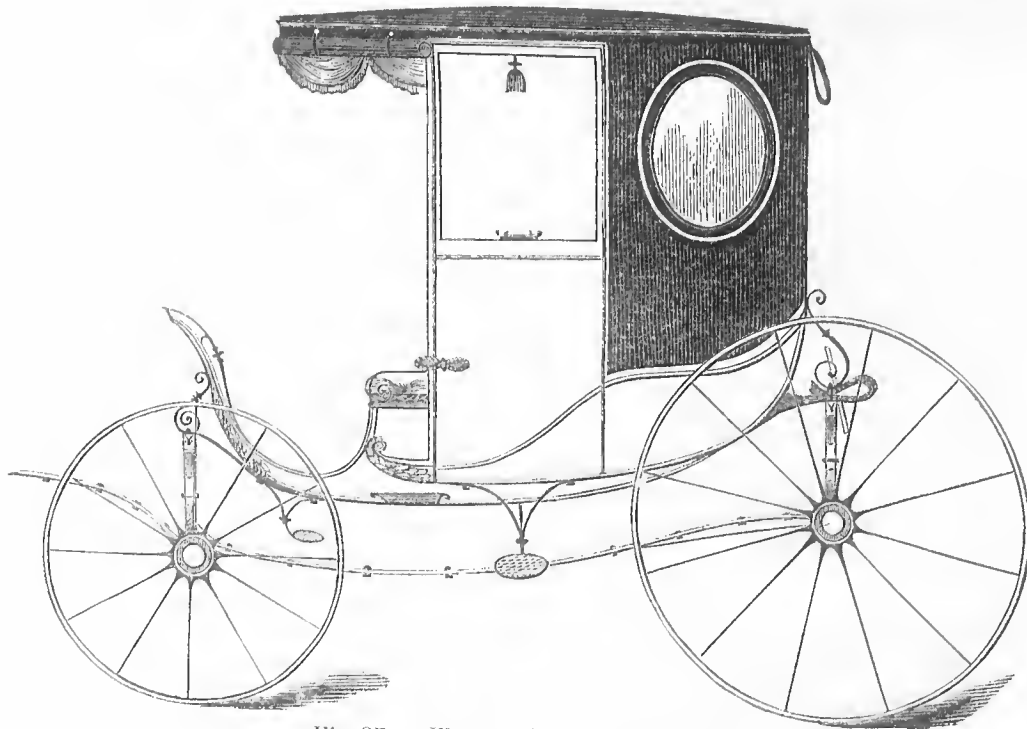


Fig. 37.—Fleming Carriage—Improved.

PLATE XIV.

Saladce's Illustrated Monthly Magazine,
New-York, July, 1855.

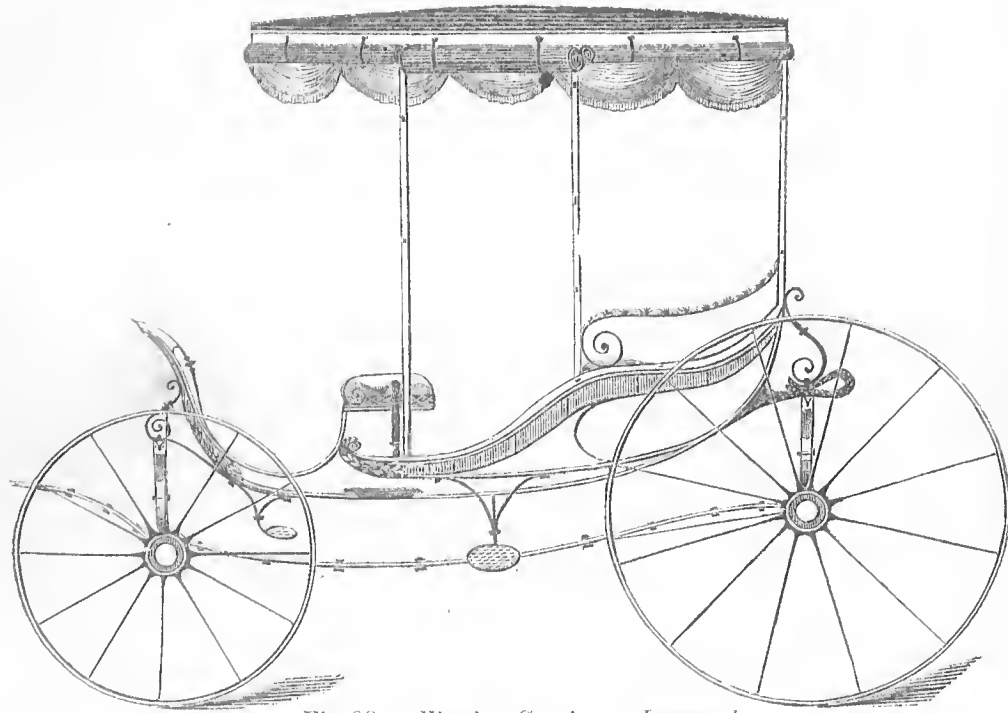


Fig. 38.—Fleming Carriage—Improved.

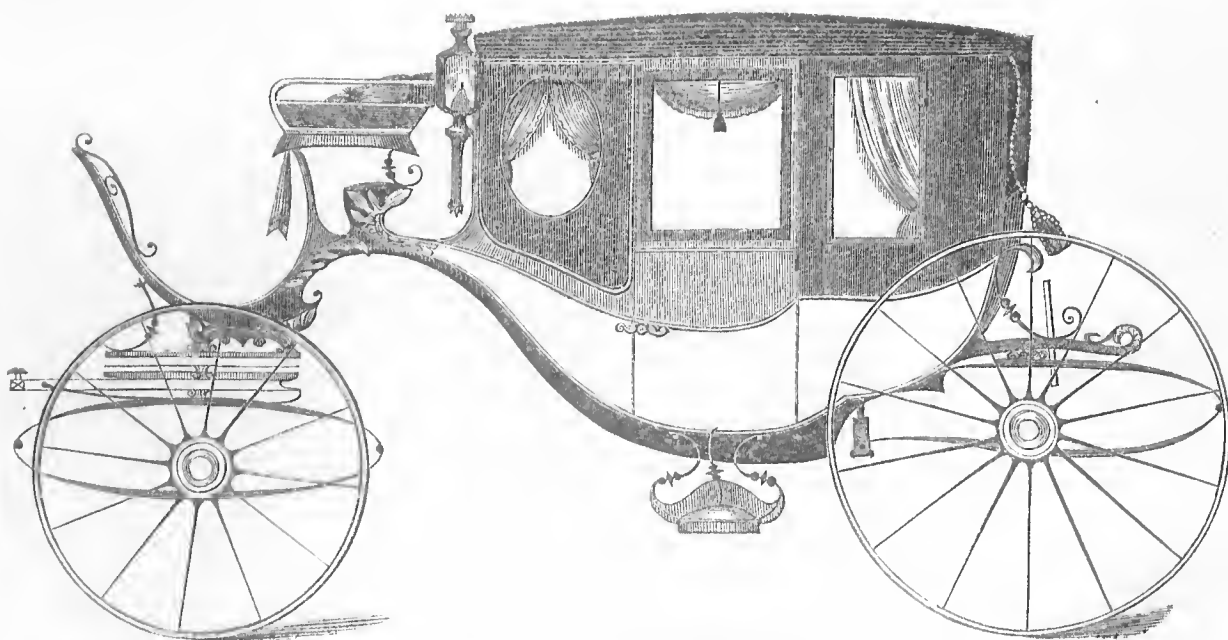


Fig. 39.—Crane Neck Couch.

C. W. SALADEE,

EDITOR and PROPRIETOR.

THE COACH-MAKERS' MAGAZINE.



VOLUME I.]

NEW YORK, JULY, 1855.

[NUMBER 7.

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EXPLANATIONS OF THE DRAFTS.

FIG. 36.—TERRILL PHOETON—EXTENSION TOP.

Mr. Abram Terrill, of Rahway, N. J., is the contributor of this beautifully designed Phoeton, and its being something entirely new to us, and in part original with Mr. F., we will call it the *Terrill Phoeton*.

The drawing being so perfectly executed, requires but little explanation, any further than to state that it is a solid side body, with side attached to the rocker, (no sill or bottom side being employed in its construction.) The two ovals in the side are sunk and painted a different color from the parts surrounding them. A beveled moulding is applied to the top edge of the side from one end of the body to the other, as represented in the draft; in every other particular the side is moulded off as illustrated by the engraving. The arched front, high seats, and variety of graceful lines which constitute the general form of this Phoeton, together with its simplicity of construction, makes it one of the best and most complete patterns for a vehicle of this class ever offered to the craft.

For Saladee's Magazine.

FIG. 37.—FLEMING CARRIAGE—(IMPROVED.)

MR. EDITOR:—I am one among the great multitude of subscribers who welcome the monthly visits of that young but very popular journal, the *Coach-makers' Magazine*, and aside from this, claiming as I do, to be one of the practical servants of the craft, I have concluded that it might not be trespassing upon your time nor the patience of your many readers to imitate the example of my superior brethren by contributing a drawing to (as one appropriately terms it) *our Magazine*.

Upon receiving the June No., in which is illustrated a beautiful design for a plain carriage,

I determined to proceed forthwith, and build a carriage after the model above referred to. But while in the act of making the drawing upon my draft board, some new ideas suggested themselves, which seemed to indicate an improvement on the original. I therefore proceeded to transfer those ideas from my shallow brain to the board, and the result is before you as it will appear when completed. Notwithstanding the drawing is correctly executed, a few explanatory remarks may be desirable.

The body is solid side with both sill and rocker. The sill extending back and forming the pump-handle. If a sliding glass was not desired in the door, the side could be put on in one piece, and cause the door to open from the top of the side, but as a glass is made in the door, it is necessary that it should extend down to the bottom side, with a full pannel, and the design of the phoeton shape on the side carried across the door by means of a moulding (as you have before described.) The scroll to this body terminates under the front seat, in place of running forward to the dash, as in the original. My object for this alteration, is to impart to the side elevation of the carriage that outline peculiar to the original English Phoeton. This I have accomplished by shortening the side to the ordinary length of the one seat Phoeton, with scroll front. The bracket to the dash I will finish on the side with carving, as shown in the drawing, and finish with a moulding on the lower edge of the rocker, and a bracket moulding $\frac{1}{2}$ in. wide to run along on the top edge of the rocker, and terminate under the front seat, which latter is supported in front by a wood standard (or bracket) framed into the rocker, and the back part supported by the front pillars, thus making the seat stationary. The back quarter I mean to close with pannel and oval glass, also pannel up the back, and by this means I intend to produce something nice—convenient as a family carriage and original between myself and brother Fleming; but as it is of the most expensive class and adapted only for a market where carriage consumers are willing and able to pay for fine articles, I will for the benefit of that portion of the craft who are confined to the cheap classes of work, illustrate the same pattern as it appears in the cheapest and most common form of a two seated carriage, and for which class of work I think the pattern is admirably adapted, and cannot but meet with a liberal approbation. It is shown in Fig. 38; in this case the side is in one piece, moulded off as represented. The drawing will further and fully explain itself.

R. G. P.

FIG. 39.—CRANE NECK COACH.

The Coach represented by this figure being of that denomination of vehicles which only the most experienced and scientific coach-makers undertake to manufacture, renders a pen and ink

description of its proportions and manner of construction utterly useless.

But in justice to our worthy contributor, (who stands first in his profession as a body maker,) we must say that the general design of this beautiful coach is original with himself. These two contributions of Mr. Terrill will speak more in his behalf as a brother of mechanical genius, than any remarks that we might offer to his praise would be susceptible of doing. Suffice it to say, we feel proud in representing the productions of his pencil in the Magazine, and having so creditably introduced himself as a contributor, we say, *let not the tie be broken*.

We might however note, that the entire front quarter with the oval glass is designed in a manner to admit of removing it. It is held to its place by the two bolts or screws shown in the bottom of the pannel, and secured at the top by means of iron dowels in the top part of the frame which supports the pannel and sockets in the top tie or kant rail. Therefore by removing the two bolts or screws before mentioned, the side quarter is readily disconnected.

The Coach-Makers' Magazine.

JULY, - - - - - 1855.

COACH MAKING—ITS PROGRESS.

The readers of this Magazine, (and what coach-maker does not read it?)—must have noticed from a large number of illustrations and its contents generally, one circumstance of striking peculiarity, and that is the immense *activity*, magnitude of *design*, and *rapidity* of execution which prevails in this department of manufacturing.

It is but a quarter of a century ago, when the various designs of carriages were limited to such an extent, that almost every individual would be perfectly familiar with them, and back a quarter of a century further, the names of all those engaged in the business throughout the U. States could be recorded upon one sheet of paper.—The number of vehicles annually brought into existence could be summed up with the aid of but few figures,—then should the nobleman have failed to compliment the coach-maker who could furnish him with a carriage in the remarkable short time of six months, from the time he left his order, a serious disappointment would

be the result, and which in all probability would lead the huddled brother chip to class his customer among that people who are cursed with a stupidity which makes them incapable of comprehending the progressive age in which they live. *Onward* is now the motto which is painted upon the banner that waves over every department of the mechanical arts. To-day we call at one of the modern factories, leave our order for a vehicle, and in a few weeks lo! and behold! the thing is done; there stands the carriage, exhibiting a neatness and a beauty of design and workmanship, that almost bewilders the imagination. It is so everywhere and in every great department; one day it is a magnificent coach; another a monster ship or a mighty locomotive engine; another a street a mile long, palatial looking ware houses, and another some beautiful edifice exhibiting

"Many a row
Of starry lamps and blazing chandeliers, set
With a pattern of apallatus, yielding lights
As from a sky."

But in all of them we observe the distinguishing element *rapidity*. Nothing is left for posterity to do but admire and excel, as they ought, having such illustrious examples before them.

But aside from the improved facilities where-with we are enabled to effect this speedy execution, we may observe, that the variety of style and model now so prevalent in the construction of carriages, has progressed with equal rapidity. As before intimated, but comparatively a few years ago, the variety of style existing was so limited in number, that but little, if any room was left for the exhibition of taste, or variation in form. However this stumbling block in the way of progressive beauty has within the last few years been entirely removed, and we now see that the varieties of style represented in the carriage department, have become so numerous, that it is a matter impossible for even the most practical observer to become familiar with them all. Fifty years ago the Coach, Landau, Cab and the Chariot were almost the only names by which the different denominations of pleasure vehicles then existing were known. But after the year 1800 we find that the chains of limitation could no longer hold dominion over the carriage kingdom, and at which time it seems to have succeeded in tearing loose from the trammels and hurried on with rapid strides (as if in obedience to that familiar command) to multiply and replenish the earth; for we find at the present day that the different tribes existing among the posterity of the ancient coach is even more numerous than those of Adam, and like the latter we perceive occasionally that some very ugly specimens are produced. But on the whole, the increase of mechanical intelligence tends materially to the increase of good taste.

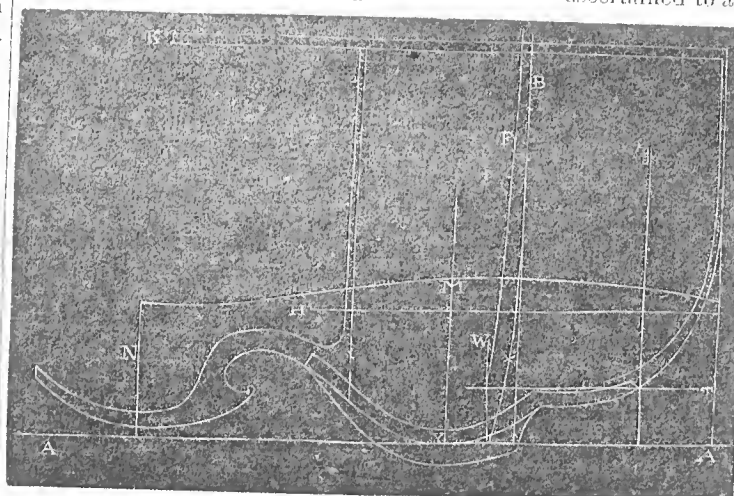
These accomplishments of modern origin should make every practical coach-maker justly proud of our fraternity, but occasionally we are apt to be astonished at some of its performances,

and especially so when we hear of the extent to which it is conducted at the present day throughout the Union. We pause—we look around us somewhat bewildered to inquire into the reality, as we are told by statistical facts that there are is over sixty thousand coach-makers in the United States, whose annual productions can not be less than twenty millions of dollars. From these carefully collected facts we presume there are but few persons (and indeed coach-makers themselves) who have any conceptions of the extent of our craft, or know how mighty they have become as a body of mechanics.

But in order to complete this faint picture of coach making and its progress, permit us to employ still another color by which to represent those numerous factories whose improved facilities are devoted exclusively to the manufacturing of the various different materials used in the construction of carriages, and as we look at those mammoth Spring and Axle, Bow, Hub and Felloe, Patent and Enamelled Leather, Coach Lace, Lamp, and various other factories of this denomination, together with those Coach Hardware and Trimming houses, which have come into existence within the last twenty years, and many of them much later, we behold a second time that distinguishing element before mentioned, *Rapidity*, and are prompted to exclaim (in the words of an English writer of the 16th century) "This coach-making has become a mighty business;" and as we have before stated, if we may judge the future by the past few years, who can tell what it will be after us?

THE FRENCH RULE.

[CONTINUED.]



EXAMPLE 6.

In our great eagerness to get the rule under consideration speedily placed before our readers, we find upon looking back that we have got on so remarkably fast, that we omitted giving an explanation of line H, by what rule its desired location is correctly obtained, &c. This being one of the important items, we will here pause to make the explanation.

In connection with our reference to line H we ought to have stated that in determining the

amount of sweep the kant rail and the throw under of the body is to receive, several matters are to be taken into consideration, in order that we may proceed correctly in the execution of the patterns intended for these parts. Such, for example, as the thickness of the plank from which the bottom side is to be taken, the shape of the elevation, and the lightness we intend the body when complete. For instance, the bottom side or sill of a round bottomed coach does not require to be taken from so heavy plank as a body which drops under at the door, and leaving a corner on either side as that in the example before us, for the reason that the space from the lower extremity of this corner back of the hinge pillar to the lower edge of bottom side on base line is so much that the throw under at the latter point requires the side to be much heavier at the former front than it otherwise would be, if it were not for this drop under at the door.

We may here remark, that in making the pattern for the kant rail it is often desirable after the outside sweep is cut, to leave the wood on the inside remain, until such time as the line M representing the kant board is drawn and everything connected to it is found to come as desired, as it may be necessary to make some trifling alterations in order to make the sweep harmonize with other parts of the body. However, if the kant rail pattern was worked out on the inside to the proper point, any alterations that might afterwards become necessary on the outside would spoil the pattern; for thus it would be wider in one place than in another; hence we would recommend that the inside of the kant rail pattern be not completed till after we have ascertained to a certainty that it has the correct

sweep on the outside. Having determined the extreme width of the body at hinge pillar (as already described,) it next becomes necessary to fix on the thickness of the bottom side at the narrowest point which is under the door at the lowest extremity, and also the thickness of the same at the back end. The bottom side to bodies like Fig. 3 can be made 2½ in. thick; however 4 in. one way or the other is not a matter of any great importance.

To obtain the location of line H you will first ascertain the distance between lines B and X on base line A A, which we will suppose to be 3 inches; to this measurement add the thickness of the bottom side, say 2½ inches, which added together makes 5½ inches. Now draw the perpendicular line Y from the lowest point of sill under the door. Having drawn this line, you will measure 5½ inches on the same from line M, and here make a mark.

Next we must know how much the body throws under at the back extremity of the bottom side, (line P P,) which is done as before shown, by taking the distance between lines B and X on line T; we will suppose it to be $\frac{3}{4}$ in. or more, which measurement we add to the thickness of the bottom side, makes $2\frac{1}{4}$ inches. This distance you will then mark on line P P from line M and make a mark as before. If, however, you should find that the latter mark and the one made on line Y are not at equal distances from the base line A A, you have only to move your kant rail pattern (line M)—being fastened by the Brad awl—(as before mentioned) in whichever direction it may be necessary, until you get the points last described, on lines Y and P P at equal distances from base line A A. This done, you have the desired points from which to draw line H the inside of the bottom side, and you will find to a certainty that the bottom sides will work precisely to the size you intended to have them. We may further remark in this place, that if in adjusting the kant rail pattern, (to meet the points on lines Y and P P,) and it should alter the originally intended width of the body at line N, the trouble is easily obviated by altering the sweep of the kant rail pattern in front until it will rest at the desired point.

By this remark the reader will readily perceive the importance of omitting the inside finish of the kant rail pattern before alluded to, as the wood not being taken away from the inside will admit of any alteration you may desire, and when once you find that all your points come as intended, you can finish the inside of the pattern with the knowledge that you are right and never likely to be wrong in the future progress of the body.

There is no knowledge more cheering and satisfactory to the practical body maker (or indeed any mechanic,) than that which imparts the evidence that his plan or design is right in every point of view. With this assurance he proceeds to the execution of his work with a cheerful heart, and mind free from doubts or fears as to the result of his labor; knowing that the rule by which he is governed will most certainly bring about the object of his original design. This, as the reader understands, is the object of the principles which form the basis of our remarks under this head. Hence the great importance of every body maker understanding the French Rule.

TO BE CONTINUED.

PAINTING.—NO. 2.

PRACTICAL RECEIPTS.

Having now introduced the different kinds of implements necessary to the execution of coach making, it next becomes our duty to lay down a sufficient number of practical receipts as employed by the artists of this profession, by which the reader may be correctly guided, when in the act of reducing the theory to practice.

We omit the receipt of varnishes, such as

Copal, Coach and Body, as they could not be of any practical utility, since they can be bought of the first quality and at rates far below that which the painter would be compelled to pay, should he undertake to manufacture small quantities, the portion which he might consume. We shall also avoid giving any receipts for the preparation of paints, &c., which we could not recommend from a practical knowledge of the same. The first and most important is the

LACKER OR PAINT DRIER.

Receipt No. 1.—This is a material which every painter should take the pains and trouble of making himself, for one half the article now manufactured, is positively not worth its weight in chaff, and the principal cause of painting blistering, peeling off and cracking, is from the use of an inferior article of drier. It matters not how good all other materials are, a poor article of drier may ruin the whole, therefore, we earnestly recommend the practice of each painter making this article himself, for it is not in this case as in that of varnish, which, if you undertake to make in small quantities, will cost you twice what it is worth. This, it will be found, can be made as cheap, if not cheaper, by every painter or manufacturer, as the same can be bought in any market.

Take 1 gallon raw linseed oil,

12 oz.	-	-	gum shellac;
8 "	-	-	Litharge;
4 "	-	-	red lead;
6 "	-	-	sugar of lead;
8 "	-	-	burnt turkey umber.

The above ingredients, (except the gum shellac) must be pulverized perfectly fine by itself; after they are all thus prepared, they can be put together in one paper; the oil must be put in an iron or copper vessel, capable of holding two gallons; the raw oil is first brought to a simmer over a slow fire, then you put in all of the above articles, and keep continually stirring in order to prevent the drier from burning to the bottom, and boil slowly for 3 hours; when the vessel or pot is set aside, and its contents cool to about lukewarm, when you will add a sufficient quantity of spirits of turpentine to reduce it to the thickness of a heavy body varnish; you will then let the whole remain in the vessel for 24 hours, so that all the grit from the litharge and umber may settle to the bottom; it is then poured off into a tin can, and is now ready for use.

This preparation is employed in the mixture of all paints save white, for which latter it is not applicable from the fact that as white is so easily soiled or clouded, no material can be used in preparing it that has the least color; consequently the above dryer being of dark shade, it has a tendency to cloud the white to a greater or less extent, notwithstanding some painters use this drier in white; but that being improper, a small portion of sugar of lead will answer every purpose.

RECEIPT No. 2.

Priming or Lead Color.—For first coat on wood work. To 1 lb. white lead, add $\frac{1}{2}$ oz. lampblack; $\frac{3}{4}$ tea cup full of drier, and $\frac{1}{2}$ tea cup full of boiled linseed oil; then reduce with spirits of turpentine sufficiently to grind it; when this is done enough more turpentine is added to reduce it ready for applying to the work.

RECEIPT No. 3.

To boil Linseed Oil.—Put it in a pot which will hold double the quantity you are boiling, and let it simmer over a slow fire three hours; when cool it is ready for use.

RECEIPT No. 4.

Paint Filling.—For bodies. Take 1 lb. yellow oake, 2 oz. white lead, $\frac{3}{4}$ tea-cup full of drier, $\frac{1}{2}$ tea-cup full of copal varnish, 2 table spoons full of boiled linseed oil. Reduce with spirits of turpentine to the thickness of cream, when it is run through the mill, and is then ready for applying to the body. This paint in all cases is applied to the work in as thick and heavy a state as to make it work never thinner than the thickness above mentioned.

RECEIPT No. 5.

Paint Filling.—For Carriage Parts.—Take 1 lb. dry white lead, $\frac{1}{2}$ oz. lamp black, $\frac{1}{4}$ lb. Spanish whiting, $\frac{3}{4}$ tea-cup full of drier, and reduce with turpentine. After ground fine you will again add turpentine sufficiently to reduce it ready for use, when it becomes thick while you are painting. In all cases reduce with turpentine only.

RECEIPT No. 6.

Black Paint.—For Bodies. To $\frac{1}{4}$ lb. ivory black, (which is used expressly for bodies,) add $\frac{1}{2}$ tea-cup full of drier. Then add sufficient turpentine to reduce to the thickness of heavy cream. After it is finely ground add enough turpentine to make it bear about the same body as boiled linseed oil, when it is ready for the work. This is called dead black, for when dry not a particle of gloss is to be seen, and should always be applied with a camel hair blender.

RECEIPT No. 7.

To Purify common Lamp Black.—By putting ordinary lamp black through the following very simple process, it is made equal to the second best ivory black; and in fact it should never be used until it has been thus prepared. Every man who has taken any notice of black painting (with lamp black,) after it has had several coats of varnish, has observed that there seems to remain a greenish cast upon the surface. This we attribute wholly to the use of lamp black in its raw state, as you observe when you come to burn it, that the same green cast is seen to ascend therefrom in heavy clouds of smoke. But after this has been burnt out, you will never see that greenish cast in painting before referred to. Those to whom this receipt is new, we would ask when they are about to test it to keep back a small portion of the same lamp black they are going to burn, and after it is burnt compare the

two together. This will show you the great importance of preparing your lamp black in this manner before using. Take a heavy sheet iron pan, place it over a hot charcoal fire; put in the amount of black you wish to purify. When it begins to get hot a thick, dirty smoke will commence to arise therefrom. Occasionally stir it up, so as to get it thoroughly burnt alike. When the lamp black has become red hot, and the smoke ceases to ascend when you stir it about, it is pure. You will then remove the pan from the fire, and let its contents cool, when it is ready for use. You need entertain no fears of doing it harm by the excessive heat, as the hottest fire cannot destroy it, (strange as it may seem.) This is a suitable black for carriage parts, and is mixed in the same manner as body black. [Rec't No. 6.]

To Mix Chocolate Color.—Lamp black, Spanish brown, with a small portion of red lead, drier, a small portion of boiled linseed oil reduced with turpentine.

Light Grass Green.—An endless variety can be obtained by the mixture of blue and yellow in different proportions, with the occasional addition of white lead. Mixed as before.

[To be continued.]

SOMETHING NEW.

A few days ago we were shown a new improvement in calash tops, for which a patent was granted to Messrs. Foglesong and Anderson of Xenia, Ohio, in August last. The improvement consists in doing away entirely with the old props, can throw the top back with one fourth the trouble attending the ordinary calash, and when up is nearly as firm and steady as a standing top. It is very simple in construction, and we are informed its application is a saving of from three to five dollars in each top. The patentees have promised to send us a model, also letters patent, for publication. It shall be illustrated in our next, when it will be fully explained.

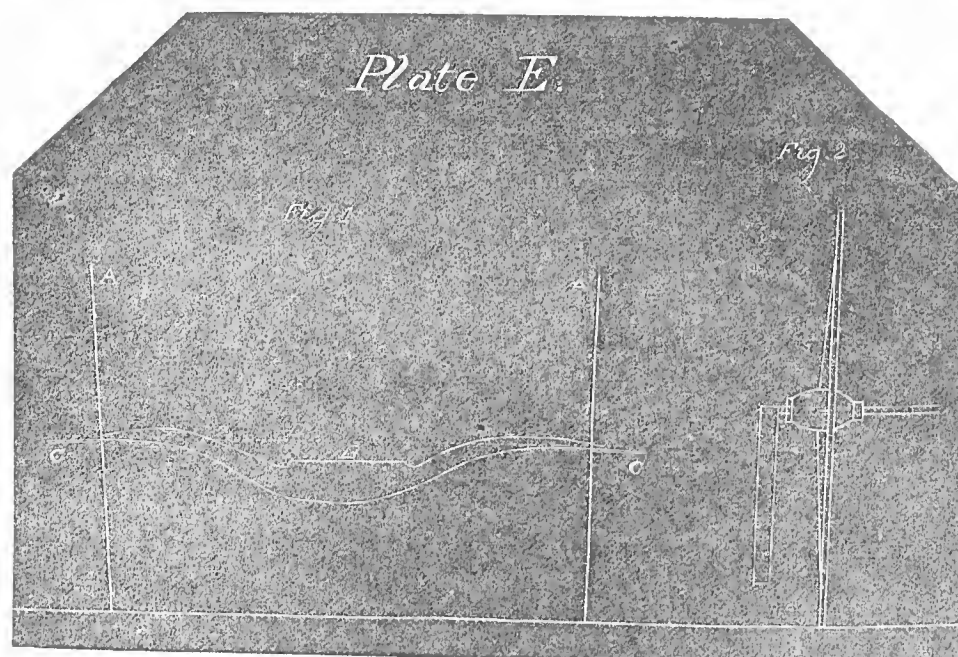
HURRAH FOR OUR SIDE!

Under the editorial head in this No., we labored to some extent to prove that coach-making had become a mighty business in the Union, and now we are going to prove that coach-makers themselves are getting to be mighty men. It is stated that the father of the premium baby which received the highest prize at Barnum's late cattle show was a Coach-maker! Brethren think of that.

WHO WERE THE JUDGES?

The model carriage, exhibited at the Mechanic's Institute, Cincinnati, Ohio, was a Crane-Neck City Calash, by John W. Gosling. We examined it closely, and feel no delicacy in calling it the model carriage, for it was superior in point of finish, draft and proportion, to any thing of that class on exhibition. But notwithstanding all this, it was passed by, and a silver medal awarded to a coarse coach, by the Messrs. Bruce's. Who were the judges? that's the question.

Flower's Contributions--No. 4.



As the article under this head in the preceding No. was devoted to the smith's part of the axle, I will now invite your attention to that of the wood workman's (the bed or stock) and I will endeavor to show you how to lay it out or make a pattern for it. But before doing so, I would have you understand that there are three points to be considered in its formation. First, its length, which should remain undecided until the wheels that are to be connected with it are known. Secondly, its shape, which depends on the shape of the body to which it is applied; should it be like that of fig. 3, Jan. No., the front bed would need to be dropped as low as possible, but not so low that the spring interferes with its turning. Thirdly, to shape the ends, so that when the axle is fitted to it, the arms will incline to their proper set, and avoid a short bend at the shoulder. The difficulty caused by this bend I have no doubt is familiar to many who have inserted or eased an axle. Now to accomplish the former and avoid the latter, I would propose to follow the rule illustrated by plate E fig. 1. This shows as we will suppose, a bed four feet long, and drops three and a half inches from the line of its ends to the centre B. This is allowing two inches for the height of the head block, one inch for the thickness of the fifth wheel, and a half of an inch for the difference between the thickness of the centre, and the ends of the spring; you will see by this that the main leaf in the spring can be allowed to be pressed perfectly straight without interfering with the ends of the axle bed. Now we have the length and the drop, we will proceed to shape the ends, which should be done according to the dish of the wheels. We will suppose that the wheels are dished three quarters of an inch, which will throw each wheel (as you have already seen) on an angle of an inch and a half in its height, is shown by line A A, (representing the rim of the wheel.) Now, in order to have this wheel revolve, and still keep the same angle in the centre, the arm will require to be placed through it square or perpendicular with the horizontal of the rim, as shown by the arm C C. You will notice that the ends of these arms incline downward. Therefore the ends of the axle bed will require to have a slight turn, as will be seen from the line D, but the turn is so slight in the draft, as to be scarcely perceptible; for practical purposes an eighth of an inch is sufficient. In

making the pattern, line A A and the arm C C can be omitted; they are merely introduced here to illustrate the point.

The front bed completed, I will make a few remarks with regard to the shape of the back one. It does not follow that because the front bed is dropped that the back one should have the same shape as is supposed by many, for in this case it would require to be raised. How much can be easily ascertained by learning the difference between the height of the loop and the point that rests on the front spring bar. Allow the back spring bar to raise that much above the front one; for instance, there is eight inches difference between these two points, and the front spring bar raises thirty-four inches from the floor; now, to raise the back eight inches above this, we must first learn how much it would be raised without the aid of the bed. We will say that half the height of the wheels are twenty-four inches, the height of the spring fourteen, the thickness of the spring bar two, the thickness of the bed in the centre two inches, which in all makes forty-two inches. This shows us that the back bed should be made perfectly straight. Now this point, though simple in itself, should always be taken into consideration, for nothing will spoil the looks of a body more than an ill shaped loop, nor nothing will add more to its beauty than one properly shaped. It is impossible for the smith to do his part unless the wood workman makes allowance for it. Therefore, the loop should be drawn with the body and the carriage part made to suit it.

Fig. 2 in the above plate, illustrates a rule to lay out a wooden axle and can be applied to set an iron one. This rule in my estimation, surpasses all others that have ever come under my notice, for it is both simple and expedient, and at the same time taking into consideration all the points in the wheel that are necessary in the laying out of an axle. Let us suppose that you have a straight stick for your axle, and the wheel in the above draft is the one we wish to make an axle for. Now, in order to have this wheel stand on a plumb spoke, the arm must either raise or drop on the front end, which of course depends on the dish of the wheel and the taper of the box, which we can ascertain by placing the blade of the square (which should be made for the purpose, with narrow blade and long stock) through the wheel when boxed, letting the blade rest on

the box, and the stock to hang perpendicular or in a parallel line with the front edge of the spoke. Now if the blade rests on the back of the box when in this position, and not on the front, the arm requires to be pointed down, just as much as the blade of the square raises above the front of the box at point; but if the square should touch the latter point, and not the back, the arm must point up just as much as the square raises above the back of the box as before. This, I trust, will be more fully comprehended by consulting the draft.

F. J. F.

For Saladee's Magazine.

MR. EDITOR:—A few weeks ago I received four No.'s of the Coach-Makers' Journal, viz: for January, February, March and April, and have perused their contents with a pleasure and satisfaction to my own mind not easily described; but suffice it to say, that I feel an honest degree of pride in being enabled to possess a periodical which I may call in the fullest sense of the term *our Magazine*; and as I have laid this familiar claim to the same, and its worthy editor, I am induced to offer for publication my own peculiar ideas in regard to two different classes of wheels, viz: high and low, and will endeavor in my old fashioned way, to show how much, or to what extent the mechanical advantages of a high wheel has been overrated by many of the young brethren in the craft.

I was very much delighted upon reading your pointed observations in answer to a Virginia correspondent in the Jan. No. relative to high carriages and short perches, and am sorry that Mr. Sloan did not (as he partially promised,) give your readers his reasons for entertaining the ancient ideas of coach making.

In addition to your remarks on low carriages, and the evils attending the use of high ones, I will advance one step further and give my observations on the mechanical advantages and disadvantages existing in the use of high and low wheels. Should they meet your approbation you are at liberty to give them to your numerous readers, and in case any of them should see proper to disagree with your humble servant, I hope they will ask your permission to reply.

HIGH AND LOW WHEELS.

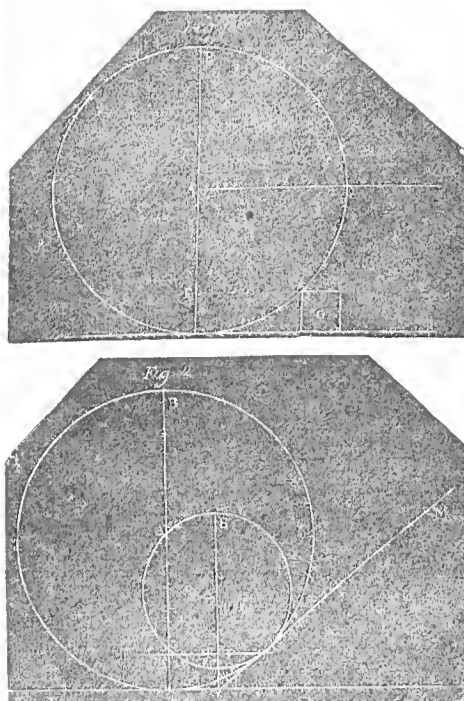
It is a prevalent opinion that a carriage with high wheels follows the horse with less resistance than the same carriage on lower wheels, and many have gone so far as to contend that a wheel six feet high (or even higher, if it could be permanently constructed,) would run better over all kinds of roads, than a wheel of half that diameter. It is of consequence, therefore, that we inquire as to how great a degree such advantages are really gained, as many carriages are being constructed inconveniently high, with the view of possessing this very desirable property. One advantage contended for in high wheels, is the reduction of axle friction, and another is, their increased power as levers in surmounting hills and other obstacles in the road. But before we subscribe to this opinion, let us inquire into the operation of a carriage wheel, and if I mistake not, the result will be to show that this lever power has been very much overrated. I will here point out the difference between the wheel and axle as a machine, and the same as a wheel carriage.

The wheel and axle (according to Ferguson) is the second mechanical power, acting entirely on the principle of the lever. The axle is at rest, and supports the weight of the wheel, (or as it might be called, the machine,) while the power being applied to the outer circumference,

a succession of levers take place as the wheel revolves. This, reader, is the operation of a wheel and axle in machinery.

Now, the axle of a carriage partakes of the motion of the carriage itself; the power required to draw the carriage is not applied to the circumference of the wheel, but to the axle. The operation may be thus described: If we suppose a carriage with four wheels to stand upon a horizontal platform, the carriage would remain at rest, as each axle would press the box in which it rests perpendicularly. But if one end of such platform be raised so as to cause an inclined plane, the pressure of the axles will continue their bearing on the lower part of the boxes, (still in a perpendicular line,) which bearing down, and the inclined position of the platform, will cause the carriage to have a forward motion. But let us suppose the platform to be once more horizontal and apply power to move the carriage forward, the same effects are produced, as by so doing the axles are shifted from their perpendicular bearings and pressed against the front part of the boxes in the wheels, which of consequence immediately begin to revolve and the carriage is set in motion, which motion it will continue to maintain so long as sufficient power is applied to draw the carriage forward. Thus it appears that the wheel and axle in machinery and a carriage wheel differ very materially; the former being an endless succession of levers moving on a fixed axle or centre, which may be termed the fulcrum of this continued lever, whilst the latter approaches nearer the simple roller, its employment is indeed for attaining, viz: that of removing the friction which would otherwise take place if the carriage rubbed instead of rolled over the space it is required to pass. Its mechanical power as a lever consists of the overcoming of such obstacles as are commonly met with in roads.

FIG.'S 1 & 2.



Thus, let the circle of fig. 1 in our illustration represent a wheel; A the centre or axle; O an obstacle; now the lever in proportion as the distance from B to F is greater than from F to O. Without troubling the reader with any mathematical calculation we may safely assume the imaginary point F to be the fulcrum of the lever. In this case we consider the carriage to be drawn on a level road, but we shall find it to be

very different in ascending a hill, as although the wheels continue to act as levers, we shall find that the action of the weight from gravitation will increase with the power gained by the increase in the size of the wheel, and consequently that enlarged size will be of no further use than that of diminishing axle friction, the trifling consequence of which we need not now discuss. The advocates of high wheels do not generally appear to be aware of this circumstance.

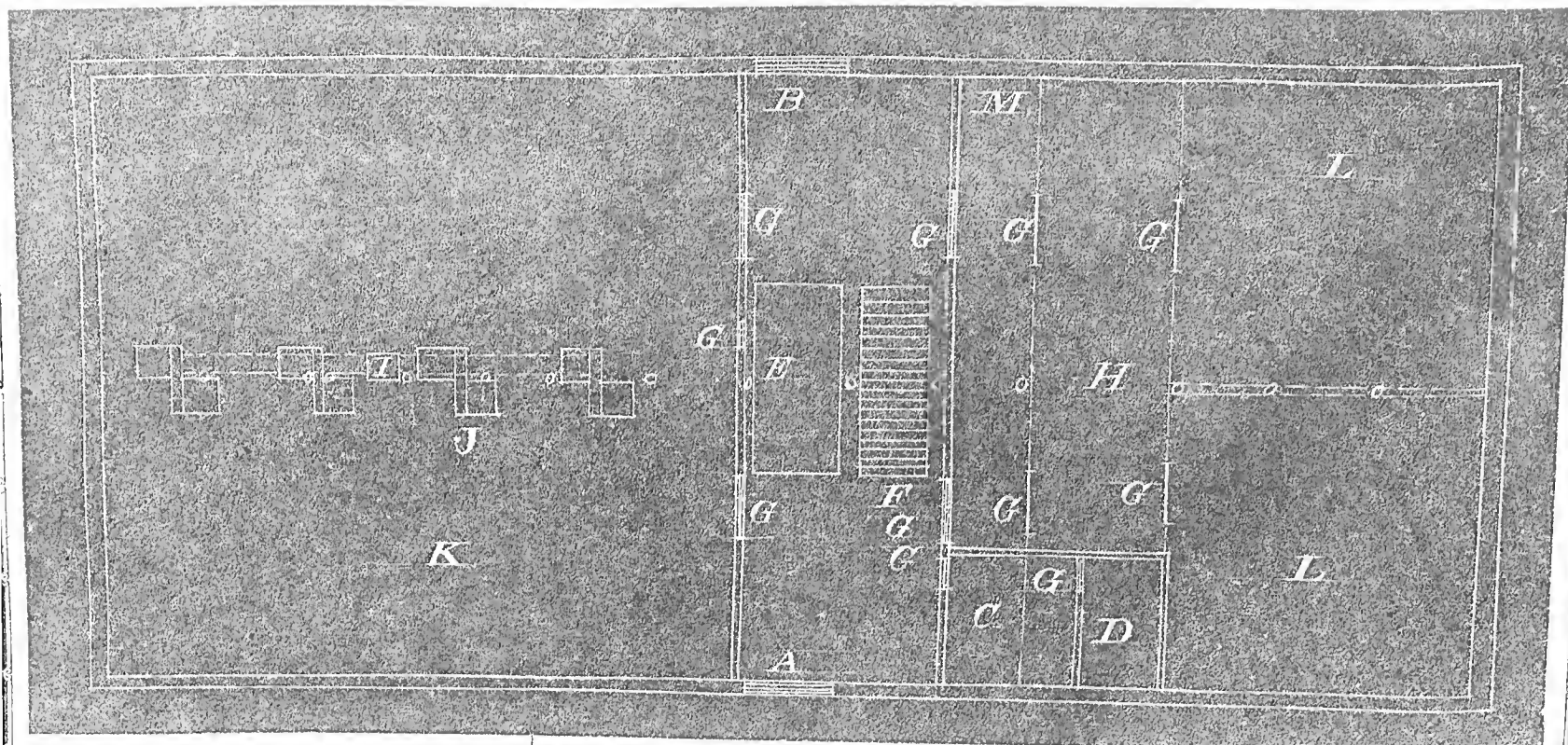
To illustrate still further let us have resource to a diagram. Suppose the large circle in fig. 2 to represent a wheel of four feet in diameter, and the smaller circle a wheel of only two, both of which are made to ascend the inclined plane (L M,) by powers applied to each centre or axle it will be found that by describing the lever as in the former case, although the arm of the lever from B to F be double the length in the large wheels that it is in the small, the other end of the lever from F to the bearing of the wheel on the hill is also augmented in the same proportion.

It must be admitted that the imaginary fulcrum attributed to the lever power of wheels marked F in the foregoing diagrams, exists only momentarily in the operation of surmounting obstacles which may occur on level roads, it being evident as the carriage advances the distance from F to O decreases, whilst that from F to B increases, until the axle A arrives in a line perpendicular to the obstacle, when the lever of gravitation ceases altogether, the weight of the carriage being supported by the obstacle. The case is very different, as in ascending the hill L M, as the relative distance from F to B and from F to the bearing of the wheel on the hill remains always the same, consequently the gravitation of the carriage will continue to act against its progress upwards with the lever proportioned in length to the height of the vehicle. From these observations it appears, that the mechanical power of wheels in the capacity of levers, will act with most advantage in overcoming obstacles on level roads, as in addition to what has been before stated, much assistance is derived from the motion of the carriage. But if we consider a little further upon the situation of high wheels on hills, the fact of the increased power given to gravitation, clearly proves the necessity of a greater force to check their descent. Therefore as greater resistance in such situations will be required from the horses, is it not evident that the advantages attributed to very high wheels on hilly roads are without the least foundation. Thus far my observations have been directed to the operation of wheels in general, but finding that my article is already extended beyond a reasonable space, I shall trouble the reader again, when I will make some remarks on the means to draw them.

S. W. D.

VEHICLES.—E. D. Williams, of Wilmington, Del.: I claim the combination of the plate springs, D F, and the spiral springs, E G, connected or attached to the floor C, of the body of the vehicle and the perch B, as shown, and using in connection with said springs, the straps, H J, for the purpose of preventing sudden longitudinal and lateral vibrations, as shown and described.

[The weight of the load comes upon the thick short ends of the springs D F, thus allowing the long parts of the springs to be made comparatively light. The springs are also prevented from breaking, as they cannot yield vertically beyond where they come in contact with the floor.]



In this No. we have the pleasure of representing another of the model factories in our fraternity, which the company have had the kindness to contribute to the Magazine for the benefit of its readers generally.

The annexed engraving and the following explanatory remarks by the secretary of the company, will enable the reader to comprehend the entire arrangement of the building. It is indeed a model shop, but then how could it be any thing else when a Tomlinson puts a hand to the wheel, aided by a number of such practical men as constitute this company.

For Saladee's Magazine.

BRIDGEPORT, Conn., May 1, 1855.

MR. C. W. SALADEE—*Dear Sir:*—We enclose a drawing of the plan of our factory, built in 1854. This company was organized last year under the law authorizing joint stock companies, capital \$30,000. The stockholders are nearly all experienced carriage makers. It was to be expected that a model shop would be built. It is acknowledged by all to be about the thing.

The building is of brick, four stories high, 121 by 50 ft.; 10½ ft. between floors, which are supported upon girders 11 by 10 in., joined in the centre and resting upon posts in the centre of the building. These girders are 8 ft. apart from centres; the floors 3½ in. thick lie upon these timbers. The building is well lighted with large windows near together, on every side. The first story has two outside doors A and B. K is the smith shop with 8 forges in the centre, with one large chimney running up 40 ft. above the roof. This plan works admirably. The centre of this story is used for a passage way, and stairway F; the remainder for office C, stock room D and show room H. The second story is used for a wood shop and the turning room. Dotted line M is the partition. The third story is used exclusively for painting—two varnish rooms L at one end. The fourth story is used as a general store room. It is hardly nec-

essary to say to a practical coach-maker, that this room will always be well filled and pay well for the additional expense. G G are the doors.

In the rear of the lot is a shed the length of the main building for lumber, &c. There are many advantages in building a shop 50 ft. wide and four stories high. First, you get a great deal of room, more central and at less cost than the long, narrow low building. Second, the stairways and traps are in the centre, leaving ample room opposite for benches. Total cost about \$8,000, exclusive of lots.

Yours truly,

TOMLINSON CARRIAGE CO.
Geo. K. Groot, Sec'y.

For Saladee's Magazine.

HARD RUNNING WAGONS.

"The wagon goes heavily, impeded sore
By congregated loads, adhering close
To the clogged wheels."

COWPER.

A vehicle that runs hard—and the world is full of them—is a most vexatious and undesirable piece of property; and on the score of economy, and humanity to the animals which draw them, it is the worst kind of policy to use them, when it requires no more time, nor timber, nor iron, nor expense in any way to make a vehicle that will run with the greatest possible ease. Those who use wagons and carriages much will find it will enhance their interest to employ a mechanic to make them, who not only understands the principle of making a vehicle that will run easily, but who has mechanical skill to do it according to the most correct principle. A man may have a perfect understanding of the principle of a thing, and know well when a piece of work is done right or wrong, and still be utterly incompetent to do it himself.

What makes a vehicle run hard?—Unnecessary friction. When wagons and carriages are constructed on the most correct mechanical principles, there will always be a vast deal of friction; but, when the wheels are hung any how, the boxes fitted any how, the various parts of a wagon put together any how, we must not feel disappointed if a vehicle runs any how but easily, for a team.

Let us illustrate: When a person walks he

throws his feet directly forward, and he moves with little effort. Let him walk with his toes outward, or inward, or cross-legged, or straddling, and how soon his progress will be impeded by unnecessary friction. So with a wagon: If the wheels be hung just right, it rolls along beneath a ponderous load, requiring but little power to move it. But, let the axletrees be turned upside downwards, and it runs incomparably harder. Why? Because the shape of the axle arm causes the wheel to bind, and press very hard against the nut or linch-pin.

There are scores of wagon-makers who have a reputation for doing good work, invariably; but their wagons always run extremely hard. The truth is, they do not understand the principle of giving the correct set to the axle arms, and dish to the wheels, to make them run easily. I know a wagon-maker who has one invariable rule in gathering the axle arms, whether they be long or short, large or small; and his vehicles are of themselves a good load. His rule is to make the under side and the forward side of the axle arms straight, without any taper. This shape of the axle arms, throws the forward part of the wheels inward to such a degree—like a man toeing inward when he is walking—that the wheels not only press very hard against the shoulder of the axle, but slide along on the ground as they revolve. Of course, this will make a wagon run hard. Let the forward part of the wheels be turned inward to a certain angle, and they will not revolve at all but slide along.

Some wagon-makers make all their axle arms with the same taper on every side. Some in setting the end of the axle arms forward from a right line through the centre of the axle always set half an inch, whatever may be the size or length of the arm. Very many in making an axletree like a gambrel—with the bow upwards or downwards—give the arms a pitch downwards from one-fourth to half an inch from a horizontal line. When the axle arms are made of either of these shapes vehicles will run hard. Sometimes the tongue and hounds are not attached to the axletrees in a direct line; sometimes iron arms or axletrees get bent; some-

times wooden axletrees which have been made of unseasoned timber, spring in seasoning, and although they may have been made correctly at first, the present shape of the arms makes the wagon run hard. Sometimes we see a wagon with very small fore wheels and very large hind ones; and if there has not been calculations made for keeping each axletree in a level position, in putting in the reach and hounds the arms will be thrown from their proper position, and the wagon will, inevitably, run hard.

These are a few of the causes of hard-running wagons, and it is a subject which is very imperfectly understood by country wagon-makers. Indeed, there are but few who have any correct idea in regard to the true principle of hanging wheels correctly. I have worked at wagons from my boyhood, and met with a great many wagon-makers; and I never have met with one who could tell why a wheel was made dishing at all, nor why one wheel was made more dishing than another; nor, about how much dish will make the strongest wheel; nor what would be the precise effect if an axletree that is made correctly be turned, with the hind side and forward side down, respectively and alternately.

When a wagon runs as easily as it can be made to run, it is an easy matter, if blindfolded, to distinguish by the sound of the wheels striking alternately against the nuts or lynch pins and shoulders of the axles. When a wagon does not run easily, the wheels will chuck but little; and if the wheels be very dishing or the axle arms set forward too much, they will strike but little against the nuts; and when they do strike the same they strike immediately against the shoulders with a heavier blow or chuck.

If this should meet your approbation, I will give you a chapter on axletrees, with drawings.

S. E. T.

Lake Ridge, Tomp's Co., N. Y.

For the Coach-Makers' Magazine.

OILING WHEELS.

After the tire has been set, before the wheels are painted, if they could be placed in a vessel of oil, and the entire wheel completely submerged in in oil, for several hours, it would be of great benefit to them, by preventing every portion of the wheel from shrinking; and would render them very durable. As the wheels are exposed to mud and water more than any other part of the vehicle, they will absorb much water; and even when they are well painted water will enter the felloes at the joints. The result is, the wood swells, and when the wheels become dry they shrink; so that sooner or later, the tire will become loose. But if every part is well saturated with boiled linseed oil, it will effectually exclude the water, and prevent entirely the shrinking of every part, even when exposed to mud and water.

But, as the process would be rather impracticable as a general thing, I have practiced oiling only the felloes, by placing the wheel erect, with the rim in a trough, two or three inches wide, and six or seven inches deep, filled with oil. After one felloe has absorbed as much oil as it will during thirty or forty minutes, or longer, let the wheel be turned around until every felloe has been saturated; this process fills the tenons of the spokes with oil, which would otherwise be filled with water. If the other parts of a wheel received a thorough oiling, as they should, wheels will last an age, and literally wear out.

I have often treated wheels in this manner when the tire was loose but little, and the felloes have swollen to such a degree that the tire

became as tight as if it had just been re-set. I have often seen scores of new wheels made of poor timber, and poorly made, which if well saturated with oil, would wear more than twice as long as if they were merely painted. Sometimes when the spokes work a little in the hub, this process will render them so tight that they will not give under a heavy load.

It would be as well to paint the trough on the inside, before using it, to prevent its absorbing the oil. A sheet iron trough would be as good as a wooden one, and would cost but little.

S. E. T.

Lake Ridge, Tomp's Co., N. Y.

For Saladee's Magazine.

APPROBATION.

BUCKFIELD, Me., May 1, 1855.

MR C. W. SALADEE—*Dear Sir*:—I have just received through the kindness of our P. M., one of your prospectuses for the *Coach-Makers' Illustrated Magazine*, and the opinion I have formed in regard to its utility is such as to induce me to remark that the Magazine is just the work every carriage-maker needs to enable him to prosecute his business scientifically and understandingly. The business of coach making will compare favorably with any other branch of the mechanical arts, and the great mass in every society of refinement are dependent upon this class of mechanics for one of their choicest luxuries and conveniences, which is the various beautiful forms of carriages they now have or may have in all time to come. I am therefore made happy in finding that there is a monthly periodical so well adapted to the wants of the craft as the *Coach-Makers' Magazine*. Wishing you unbounded success in your worthy enterprise, I most cheerfully enclose one year's subscription.

Yours in the Craft,

L. DARMAN.

EASTERN CARRIAGES IN COLUMBUS.

Our old friend J. A. SHANNON, who is favorably known throughout the State as a scientific carriage builder, and to whom was awarded the first premiums at nearly every Ohio State Fair, has recently associated himself with Col. JOHN GEARY, of the "*Capital City Fact*," in establishing a repository of eastern carriages at Columbus, Ohio, and which is styled the "*CAPITAL CITY CARRIAGE REPOSITORY*."

This Repository will compete in many points with any other in the western country; not only is the building beautifully situated and especially adapted to the business, but on passing through the elegantly lighted halls the visitor will find them filled with carriages from the most popular manufacturers of New York, Connecticut and Massachusetts. The light carriages from Messrs. C. & D. Cook & Co. (New Haven, Conn.) will be found upon close inspection to possess a neatness and a style of finish in the execution of the work, which none but the most experienced coach-makers can impart to vehicles, and the rapidity with which these carriages are being sold, shows that eastern work is fully appreciated in this market.

CARRIAGE SHAFTS.—H. A. Genetream, of Paris, has obtained a patent in England for the application of whalebone, or of bamboo cane, to the construction of carriage shafts.

For Saladee's Magazine.

RAMBLINGS.—NO. 1.

MR. EDITOR:—Since my connection with the *Coach-makers' Magazine* as traveling agent, I have had in my ramblings here and there many pleasing interviews with the fraternity, and as I am wandering from city to city, and from town to village, leaving the Magazine at every point I visit as I sojourn, I shall take the liberty occasionally, to trouble you and your 12,000 readers with a scratch from my humble pen. I am delighted to inform you of the welcome manner in which the Magazine is received by the craft throughout this portion of the country.

Some three weeks ago, while in the city (N. Y.) I formed the acquaintance of a worthy brother craftsman, who has had upwards of forty years experience in the business, and to whom I offered the Magazine. As he was leaving it over, taking a hasty glance at its pages, he paused and made the following complimentary remark: "Sir, I should be most happy to see this man who has had the enterprise and courage to bring such a work as this before the public, and take him by the hand." As your authorized agent, and being myself a practical coach-maker, I ventured to substitute my hand for the one referred to, and found in it the price of subscription for one year, so now he can shake hands with you monthly. This gentleman has had the kindness to furnish me with some drawings, a number of which are one hundred and fifty years old, which I will forward to your office, hoping to see them at the proper time illustrated under that interesting historical head.

At Albany I found most of the coach-makers had heard of the Magazine but few had seen it. But as soon as I laid it before them, I obtained with one exception, all the proprietors, and quite a number of the journeymen in their employ. The same in Poughkeepsie, at which place, however, I found a club of ten were receiving the Magazine regularly.

After a few days roaming from post to pillar, I at last find myself in Bridgeport, Conn., which by the by should be called Coachport, for surely it is the capital of the carriage kingdom. I have been here for several days, and am astonished as I am brought to realize the extent to which coach-making is conducted in this city. I perceive, also, that the decks of the large steamers which leave here every morning for the Babylon of America, (as Miss Virginia very appropriately called New York,) are crowded with new carriages. Some wise man of the East had the kindness to inform me that my visit to Bridgeport would most certainly prove fruitless if my mission was the introduction of a Magazine, edited and published by a man from Ohio. "Why," said he, "the coach-makers in Bridgeport are too far advanced in the art to need such a publication, and therefore would not condescend to patronize the Magazine." I was not at all affected by this prophetic assertion, neither did I take the pains to inform my adviser of the fact that the editor was an eastern man, a practical coach-maker, and that the object of his enterprise was not to teach men the art of coach making through the medium of his publications, without regard to practice, &c. Nor did I further consider it of any importance to endeavor to convince him of the fact that just such a Magazine was called for by the most scientific coach-makers as well as by the minor classes of our fraternity, as a medium through which the craft could communicate with each other, and by which to illustrate the latest designs and fashions from month to month, and also the various improved facilities and rules by which they are constructed, and that we were tasking our energies, and striving to elevate this most neglected of all arts to an eminence which the progress of the day demands, for it is useless to reason with men who are destitute of that faculty; however, I come to Bridgeport and find that the reverse of my friend's predictions are realized, as you will perceive from my weekly reports. In the Factory of Bruster & Co., a club of fifteen was easily obtained, which gentlemen I think, have the largest establishment in this country.

It gives me pleasure to give in addition to the above named house the following, all of which have liberally subscribed for the Magazine, viz: Tomlinson Carriage Co., Gould, Kieffer & Co., Tomlinson, Wood & Co., and others; also Mr. C. Russ, who first introduced the French Rule in this country. He is also the first to introduce the crane-neck coach in our midst. To Mr. Brewster, Mr. Groot and others I have tendered the thanks of the editor, as well as my own, for the lively interest they exhibited in circulating this work throughout their respective establishments. Notwithstanding Mr. Groot of the Tomlinson Carriage Co. was a subscriber previous to my visit here, he gave me permission to canvass the factory, and remarked that I should get all I could to take it, for a man that did take it he considered was worth more to him than one who did not, and that he would give him work in preference to others, and this is the spirit I

am happy to say, that prevails throughout this part of the country, (at least so far as I have traveled,) in regard to the Coach-Makers' Magazine.

But lest I should weary your patience I will for the present drop the pen.
ABRA'M TERRILL.
Bridgeport, Conn., June 13, 1855.

For Saladee's Magazine.

EVERETT AND HAUSKNECHT'S PATENT.

MR. O. W. SALADEE:—Having been subpoenaed by Court to testify to the similarity of the Everett's and Haussknecht Patent Carriage Coupling, and owing to the absence of some parties interested in the defense, the case was laid over until a future term; since then the parties requested me to examine the matter with certified copies from the Patent Office of each patent, together with other documents, giving the history of each invention from the time each application was made for a patent, and submit the same to you for publication. Having been asked by the parties to state what I should have done provided the suit had progressed at the time appointed, the following is what I conclude would have been my testimony, at the same time giving my reasons for the conclusion.

According to dates of the Letters Patent, it is shown that E. & C. Everett's Patent for Carriage Couplings was issued Dec. 17th, 1850, and G. L. Haussknecht's original patent Dec. 18th, 1851, and his second patent in which he disclaims all the improvement worth anything to get rid of an infringement on the Everetts' Patent, was issued Jan. 13th, 1852. Each of the claims of both parties may be seen in the June No., page 64 of Coach-Makers' Magazine. Taking the dates of the two patents, the Everetts will appear the original inventors, and as to the similarity of the improvements, by taking the drawing left with G. W. Gosling of Cincinnati, (who purchased a right of Haussknecht through his agent Andrew J. Beaumont,) and comparing the said drawings with Everett's patent they are as much alike as two circles of the same diameter. But, on sending to Washington, and obtaining a certified copy of Haussknecht's patent, and comparing the drawings in the certified copy with what was sold to Gosling by said agent as Haussknecht's Patent, it is found that there is no more resemblance between the two than there is in a square and round figure. With the facts before me, I consider the sale of Haussknecht's patent, by his agent, to Gosling, one of the most consummate pieces of fraud and misrepresentation ever performed in the sale of a patent right.

I will here take the liberty of cautioning your craft in purchasing Haussknecht's Patent Carriage Coupling to be careful that drawings representing the Everett's Patent are not substituted for Haussknecht's, as has been the case in the purchase made by G. W. Gosling. When purchasing a right make a demand for the letters patent or a certified copy, or have such drawings furnished you as Haussknecht or his agent will be willing to swear to as being a true copy of them connected with his patent.

The improved Carriage Coupling is an important one, and much time and money has been spent in perfecting the same, and it becomes the craft to see that justice is done, and from all the facts before me it is clearly shown that the Everetts are the true and original inventors of the improvement.

MARTIN BENSON,

Mechanical Engineer and Patent Agent.

Cincinnati, June 16, 1855.

RAPID RIDING.—The train which conveyed the Emperor Napoleon to Windsor on his recent visit to England, ran at the rate of 72 miles an hour. The distance was 28 miles. Brunell, the great engineer, managed the locomotive.

[From the Scientific American.]

CARRIAGE WHEELS.—D. W. Clarke and S. H. Gray, of Bridgeport, Ct.: We claim constructing the wheel as shown and described, viz: having the felloes C, constructed of malleable cast iron, in the form shown, and having the spokes B, fitted in mortises in the hub, A, and in sockets A, on the inner surface of the felloes.

The spokes, B, having sockets, D, secured on them at about their centres, in which the inner ends of short oblique spokes E are fitted, the outer ends of said spokes E being fitted within oblique sockets, A, on the inner surfaces of the felloes, as shown and described.

[The tire of this wheel, owing to the felloes being made with flanges, are cast to secure the tire without the aid of bolts. But few mortises are made in the hub, as only about half the usual number of spokes are inserted in it. The short spokes, E in the second claim, give the necessary support to the felloes, and act as braces to the long spokes.—The improvement is principally designed for light carriage wheels with small hubs. It will enable light small wheels to be made very strong.]

[From the U. S. Magazine.]

HONOR TO LABOR.

BY DENNETT.

Honor to Labor!—It gives health;
Honor to Labor!—It brings wealth;
Honor to Labor!—Our glorious land
Displays its troubles on every hand.
It bathes the plains, laid the forest low,
And brightens the vale with the harvest's glow—
Forest cities vast, with their marts of trade,
Where rest undisturbed by the woodland shade—
Brought up from the depths of the teeming mine
Its treasured stores, in the light to shine—
Sent Commerce forth on her tireless wings
In search of all precious and goodly things,
To the stormy North, with its frost bound seas,
And to bright isles famed by the Southern breeze,
Where the Ocean deepens its sunset dyes,
And the coral reefs, and the golden dunes,
To the bounds of the farthest Austral climes,
Unknown in the records of other times,
She speeds her night, and each clime and zone
Yield their rich treasures to bless our own.

Honor to Labor!—It gives deep
Into dim sea-depths where bright treasures keep,
And drench with curious quest to explore
The ancient wonders of Ocean's floor.
It fearless roams over deserts vast,
Where Destruction rides on the shipwreck's mast,
And trackless sands have for ages frowned
Over cities in ancient song renowned—
Or climbs where the dazzling glaciers lie,
Changeless and cold, beneath a glowing sky,
Leaving the trace of its triumphs proud
Above the regions of storm and cloud.

The Ocean, once an unbounded waste,
An awful terror by man unpassed,
Spread forth to the solemn skies alone
Its restless waters to Man unknown—
Now, a world of life is the glorious Sea,
A peopled world of the brave and free—
Where the proud ship glides like a thing of life
Regardless of tempest and billows' strife,
And countless sails dot the blue expanse
Of waters that flash in the sunbeam's glance.

"Honor to Labor!" the Mariner sings,
As forth on the breezes his sail he flings,
"It hath made us lords of the boundless deep;
Fearlessly over the waves we sweep!"

"Honor to Labor!" the traveler cries,
As away in the pushing car he flies—
"We may rival the speed of the bird's quick wing,
As it joyously soars o'er the skies of spring,
And the featherless wheel, on its plumed feet,
Is scarcely more fleet in its course than we!"

"Honor to Labor!" the active press
Fours forth its treasures the mind to bless,
From the pictured page, where the child's glad eye
Finds a world of bright imagery,
To the massive frame which whose treasures vast
Lie the time dimmed records of ages past,
The ever restless and eager mind
Exhaustless supplies for its want may find.
It may turn to the Past, into ages down,
And hold communion with years by-gone—
Old climes of historic fame explore—
And gather the gems of their buried lore—
With prophet birds seek inspiring dreams,
Or muse alone by old faded dreams—
Or the Past takes his garlanded flight,
And woe the nurse of legends and height—
Take fair Philosophy by the hand,
And roam with her through her native land,
Till the mental stores of all ages down,
And all gifted minds it has made its own.

Honor to Labor of body or mind,
Nath it but for its deeper the good of mankind;
The farmer, who cheerily ploughs the soil,
Or gathers the fruit of his hopeful toil—
The strong mechanic whose manly brow
Vouches of labor, the healthful glow—
The bold inventor, beneath whose hands
The useful engine completed stands—
The Artist, who with unaided skill
Creations of loveliness forms at will—
The pale-faced student who, worn with toil,
Consumes o'er his studies the midnight oil—
The man of Science, with earnest mind,
Who to enlighten and bless mankind—
To themselves—to their race—to their country true
Honor, all honor, to such is due.

CONTRIBUTORS TO THIS NUMBER.

S. W. DENNING, of Pa.
L. DORMAN, of Maine.
TOMLINSON CARRIAGE CO., of Conn.
S. E. TODD, of N. Y.
F. J. FLOWERS, of Michigan.
J. R. GATES, of Ohio.
ABRA'M TERRILL, of N. Y.
R. G. PAULDING, of N. Y.
T. D. DAVIS, of N. Y.
MARTIN BENSON, of Ohio.

ANSWER TO CORRESPONDENTS.

P. M. D., of Mass.—We cannot furnish you with articles on the French Rule any faster than they appear in the Magazine, without materially infringing upon our time, which of course you would not ask.

R. K., of Ohio.—There are various causes for wheels becoming rim-bowed. First, the hub not being entirely seasoned when the tire is applied, will, as it shrinks, cause the rim to bow. Again, the practice so prevalent among inexperienced coach-makers, of permitting the tenons of the spokes to come only part way through the felloe, will, in a short time, cause the like effect. But the principle cause of this prevalent destructive imperfection in wheels we attribute wholly to the carelessness of the proprietor or superintendent of coach factories, who neglect that all important duty of inspecting each wheel before it goes into the hands of the smith, and see that the rim is properly and sufficiently open. A wheel may be constructed of seasoned timber, and yet, if they are stored away in a dry place for three or six months, it will be found that the rim requires the attention above referred to.

Mrs. J. S. De —, of Canada East.—Your very welcome article is received, but owing to the multiplicity of matter pertaining directly to the craft, we must delay its publication till a more convenient season. We have a peculiar admiration for the feminine pen when so ably directed in behalf of the Mechanic.

P. K. C. & Co., of Mich.—We have now a model in our office (which was sent us by a subscriber in Ohio) illustrating an improvement in hubs. It consists in oblonging the spokes by means of a rule, which is constructed in the same manner as that of yours; they are alike imperfect and consequently not patentable.

Mr. E.—, of C. W.—You have our thanks for your friendly and complimentary letter, but the drawing you send for publication does not embrace a sufficient amount of attraction to admit of its insertion. It may be new with you, but is old in the States.

ONE WHO KNOWS, of N. Y.—We should think *Know Nothing* would be a more appropriate signature, as such an array of scientific nonsense we have never before witnessed.

P. P. H., of Wis.—Your article on the forward motion of wheel carriages is based upon a good subject, but the ground you take has been many times explored by other writers before you, and as the mechanical principles you advance are about the same as those laid down by various contributors in this No., forbids its publication. We admire your style of composition, and should be happy to hear from you on some other subject.

G. Y., of Ia.—The drawings of the crane neck buggy which you state in yours of the 9th June was forwarded some time previous, have not been received at this office. We are sorry for the delay, they may yet come to hand; if so, we will give you timely notice of the same.

L. M. & D., of Vt.—Your drawings are received. What are we to understand by that inscription on the back of one of them? Let us know and we will answer your inquiries.

"Inquirer," of Pa.—Correspondents who decline giving us their real names will receive no attention whatever.

S. & Co., of Va.—We think the arrangement of your top is entirely too complicated for practical use; a wood top made calash may, as you remark, be used to the heavy coaches of France, but to reduce the practice to the light carriages of this country, is a thing not to be effected for the reason first mentioned.

T. L. S., of Mo.—If you will drop a line to Messrs. Shisby, Holly & Race, at Seneca Falls, N. Y., your inquiry will no doubt receive prompt attention.

A. M., of N. Y.—Your model for a box setting machine is received. If you can so arrange the crank as to revolve perpendicular instead of horizontal, it would be much more desirable; also the clamps which fasten it to the hub must be differently constructed before it will work as well as you anticipate.

E. L. D., of Pa.—We will of course be pleased to illustrate the design of your hand wagon if it possesses the proper style, or any original idea. Let us have a sketch, and if worthy of notice, it shall appear in the Magazine soon.

Dr. L. M. B., of Me.—The drawing representing your design for a newly constructed sulky is received, and upon examination we are happy to say that it meets our approbation, and with your consent we will illustrate it in the next No. Let us hear from you in time.

We copy the following interesting article of the goings on in Paris from the *Scientific American*:

[Foreign Editorial Correspondence.—No. 4.
PARIS EXHIBITION, &C.

PARIS, May 24, 1855.

The temporary suspension of the labors in the Palace of Industry, caused by the preparations for its opening, has been succeeded by still greater activity, and every thing is going forward rapidly to completion. It was a very wise move on the part of the management to fix the price of admission, for a few weeks, at five francs, as it keeps back a crowd that might seriously interfere with the operations inside. I think the Exhibition will not be completed before the 1st of July.

In workmanship and finish I think the French mechanics unequalled, and I think they exhibit more taste in proportions.—French lathes, printing presses, etc., look much handsomer than those of any other country, and are evidently as simple in their construction, but they do not show strength and durability. As there is more substance in a beef and beer-fed Englishman than in the bread and wine-fed Frenchman, so is there more solidity in English productions.

Some time since an equestrian statue of Gen. Jackson was uncovered at Washington amidst a very proper display of patriotic feeling. A much better one of Napoleon III. was erected a few days since at the east end of the Palace of Industry, and the fact was scarcely mentioned by the papers.

A citizen of Albany, N. Y. has sent a model of an American steamboat of 2000 horse power; it has arrived in a damaged condition, and, contrary to the expectation of the American Commissioner, it proves to be a most miserable affair.

I regret that the exhibitor did not better understand the felicity of foreign artists in modeling and decoration, as otherwise he would have kept his model steamboat out of the country.

In the Austrian Department there is a very neat and finely made model of an American boat of the second class, copied from some steamers made in our country for the navigation of the Danube. It is an honorable representative of this branch of our interests, and will attract many visitors.

The American Commission holds its meetings once each week for the purpose of discussing the affairs of the Exhibition, and for arranging plans for carrying out the best interests of the Exhibition. At a late meeting it was voted to appoint a committee of three to assist one of the Commissioners at the Machinery Arcade, who had volunteered to attend there daily. The Commissioner in question very politely thanked the committee for the reinforcement, and stated that thus far his duties had been confined principally to traveling up and down the building—which is three quarters of a mile in length—searching for boxes, and as his business had be-

come very dull, he felt obliged for the relief he should have in the company of his colleagues.

There are to be some eighteen sewing machines from the best New-York makers; besides an extensive show of India rubber goods by Goodyear & Morey. These will form interesting features in the United States Department, and save us from an almost total wreck.

Speaking of India rubber reminds me of a statement I saw in one of the New York daily papers in regard to the great success of that interest here. It was to the effect that one of the parties, a citizen of the United States, besides realizing some \$300,000 from the sale of the patent here, was to receive a salary for superintending the works of the Company. This all sounds very pretty in a newspaper, but upon inquiry at reliable sources I am informed that the statement is *gaseous*. The business, however, promises well, and therefore such electroplating in the newspapers is not required.

In looking over the catalogue of exhibitors in the Exhibition, I noticed that France has nearly 10,000, Great Britain 2,000, Austria 1800, Prussia 1200, Belgium 700, Spain 500, Mexico 104, and the United States about 100.

I notice among the articles in the English Department a large church bell, with an improved method of hanging, which has a novel quality of much importance. To the shank of the bell is fixed a toothed wheel, into which a pinion or an endless screw is made to gear, so that the bell may be readily turned with a crank, and thus present a fresh surface to the clapper or tongue. This prevents all uneven wear, and must render the bell much more durable.

There are also exhibited by a Birmingham house some very beautiful cases made entirely of glass, except the bottom, which is wood. The plates are supported by flint glass pillars or sash bars, and thus afford an easy transmission of light into the case; they can be more readily kept in order, than brass or silver-plated frames. They look handsome.

I was interested in a fine collection of excellent glazed earthen-ware from Lambeth, for the manufacture of the various acids; one colossal vessel, said to be the largest thing of the kind in the world, holds 400 gallons, and has an average thickness of three quarters of an inch. The glazing is the best I have ever seen, and is said to be proof against acids not solvents or vitreous bodies.

From present appearances agricultural implements will be as plenty as blackberries in August. I am glad of this, for I am of the opinion that few countries need spurring up in this direction more than France. As I passed thro' the northern part of the country I had some opportunity to judge of this from the rude implements I saw in use, and the general prevalence of female labor in the field; and even England, although a better cultivated country than the United States, falls behind in good and conven-

ient agricultural machinery. One great obstacle to the progress of agricultural improvement in France, is the prevailing ignorance of its farmers. They read no publication devoted to their interests, and are satisfied to pursue a system that would seem little better than barbarism in our country.

Good common schools would help the rural population of France far more than gunpowder.

There are several very respectable scientific publications published here, but they are seriously crippled for want of support. I have not been able to learn of a single work of the kind that gives any fair return for the talent bestowed upon it. The cheap issues of French novelists meet an extensive sale, and like too many of the same class in the United States, mechanics in Paris spend their leisure in reading trash, and at places of profitless amusements.

I have noticed that several of the scientific journals have re-produced from the *Scientific American*, the excellent article of John F. Mascher, on daguerrotyping without a camera. This subject is of much interest here, and many experiments are made to perfect an art that had its origin in this country. The pictures produced here are not so clear and expressive, probably from the want of the bright sun and clear American atmosphere. The English pictures are usually very poor, much poorer than the French.

S. H. W.

THE BACK NUMBERS.

During the past month we have received a multitude of communications from new subscribers, anxiously inquiring whether we mean to furnish them at the expiration of the year with the volume for 1855 complete. Our answer to one and all is, *yes*. With the December No. you shall receive (reprinted) all the drafts and important articles of the January, February, March and April No.'s, and thus furnish you with the Vol. for 1855, complete with all its drawings, &c., &c. The increase of our subscription list within the last *ten days* fully justifies this obligation.

SPROUT'S COMBINED CARRIAGE SPRING & COUPLING.—In our last we had occasion to speak of the above valuable Spring and Coupling for carriages, and promised to give an illustration of the same in this No., but owing to some unavoidable delays the proprietors (Messrs. Sprout, Burrows & Co.) could not furnish us with the sketches in time, but have promised to do so without fail in season for the August issue.

SYRACUSE, June 18, 1855.

EDITOR COACH-MAKERS' MAGAZINE—*Dear Sir*.—Will some one of your numerous readers give through the medium of your excellent Magazine, a practical rule for setting tire on light wheels; how much draft is required to give any sized wheel a certain dish; how much should the felloes be left open, and also what other practical information is necessary.

Yours, truly,
T. D. D.

Will some one respond?

THE EVERETT COUPLING.

Owing to some delays on the part of Mr. Gilbert in forwarding in due season certain important articles to appear in this discussion, the matter must necessarily be laid over till our next, when we expect to put an end to the controversy, and place the coupling contended for by the parties in its proper light.

SUCCESS IN LIFE:

Or the Story of a Down-East Mechanic.

BY MRS. M. W. D.

Since financial ruin, hard-times, out of employment, misery, and even starvation has been the burden of every day's report, I have cast my eyes around among those whom I have known from boyhood, tracing their various fortunes from that time to the present, generally finding in the juvenile training and habits of thought and action, a key to the success in life of some, and failure of others.

Let us contemplate a single group of boys sitting together pursuing the same studies in a district school, passing from their lessons into the streets, some to sow the seeds of dissipation and ruin, by pursuing idle sports and mischievous amusements, led may be, by those who are exempted from useful labor by the false pride of parents; perhaps regarding with seeming contempt the boy who goes from the school-house to the work shop, or the farm, where, it is true, he may harden his hands, and bronze his skin, but at the same time he will develop the material for the physical man, while habits and knowledge are acquired that he may enable him to set at defiance the mutations of the money market, and place him among the worthy and respectable of mankind.

It is "recess" in a country school—a little fair-haired boy of ten summers, lingers behind his mates, assiduously marking on his slate. The teacher approaches him,—“Frank, have you done that sum yet?” “No ma'am; it is so hard I do not know as I can do it, but I'll try it over again.”

You had better go and play a few moments, and when you come in I will help you.” “Thank you,” said Frank, “but I would rather find it out alone if I can.” There was the key to that boy's character. As a type of his class I purpose giving a brief sketch of his life, taken in part from a recent letter from himself. I do not give it on account of any romantic scenes or stirring events, but because the example is *tangible* and may be the means of leading others to persevere, and under any discouragements never to despair, but always be ready to “try it over again,” and never call on others for help, as a rule, in small things, while the ability remains to help themselves. The letter to which I allude commences thus:—“Knowing as you do, the worth of my dear parents, it is quite unnecessary, in giving a brief sketch of my own life, to speak at length of theirs. Suffice it to say that my father was a blacksmith by trade, and being a Methodist preacher beside, would retire from the shop on Saturday afternoons to prepare for the duties of the Pulpit on the Sabbath. To his children he gave the best moral instruction personally, but his means did not allow him to give them anything more than a fair business

education. This was obtained at the common school, working in the shop mornings and evenings, and at a more advanced age a few terms at the Main Wesleyan Seminary completed the school education.”

In the Autumn of 1841, (his father having removed to Fredericton, New Brunswick,) Frank Ashary, being twenty-one years of age, left his native town, in the possession of a good trade, good health, comfortable clothing, a very few dollars, and very firm resolutions, if the thing could be done by prudence, industry, abstinence from “rum and tobacco,” that he would achieve respectability and fortune. To this end he set his face towards the far West, which, by the way, at that time did not extend beyond the Rocky Mountains. In the outset of his journey he turned aside to make a farewell visit to a married sister in G. and lo! here on the threshold of his wanderings, he “met his destiny”—although owing to adverse circumstances, it was rather slow in its development. He says—“The amiable Miss S. G., who had then numbered eighteen summers, made an impression on my mind which refused to leave me during the long season that intervened, before I could feel justified in soliciting a renewal of the acquaintance.”

Failing to find employment either in Boston or Lowell, by which he had expected to raise the means of pursuing his journey, his funds became exhausted. Under these discouragements he concluded to abandon his project, and go to Fredericton to seek work for his father. But how was he to get there without money? As the way in which this was accomplished is a good illustration of the Yankee character in general, I will let him tell the story himself:

“I repaired to the wharf, where I found a small craft ready to sail for Frankfort, on the Penobscot river, thirteen miles below Bangor. I sold my watch to a broker, paid my passage and had six cents left! A small sum, you will say, with which to travel from Frankfort to Fredericton, a distance of two hundred miles. Our vessel being driven into Cape Ann by a storm, I had an opportunity again to see my sister, and if I had made the state of my funds known, could have obtained any amount of money I required; but I had such a horror of incurring a debt, that I chose to work my way through, as if I did not doubt I could. Arrived at Frankfort, I helped to discharge the cargo, for which service the captain paid me seventy-five cents; this, in addition to seventy-five cents I had received on the passage for part of the contents of a Yankee boy's pocket made me feel quite independent. The greater part of this sum I invested in a hand sled on which to draw my trunk, and the rest in crackers, to give me strength to draw it. Thus equipped, I again started, stopping to work a day or two in a place as opportunity offered, to renew my funds. I at length reached Fredericton with fifty cents in my pocket.

et. There I worked for my father four months; the avails of that labor procured me a set of tools and eight dollars besides, with which I started for Aroostook, at that time the promised land to down-easters, and well it might be, for it is the main attribute of that land to produce in the greatest abundance for man and beast.”

Here the young mechanic began life with an earnest endeavor, that won a success which encouraged him to offer the pretty Miss G. a partnership in the concern. Often thinking of her had only strengthened the impression she made on his mind two years previously, and he began to find himself actually nursing the *tender passion*. He resolved to write to her, soliciting a correspondence. The letter despatched, what a month of suspense succeeded before he could receive an answer! What if she should be dead, engaged, or worst of all, married to another! horrors! what a thought. But the letter at length came granting his request.

He says,—“During another year and a half we became engaged, through the medium of pen and ink, for I could not visit her, much as I wished to do so. At last the happy time arrived when I could take a bride, consenting in the full knowledge of the facts, to leave a home in the vicinity of a populous city, surrounded by all that is desirable in social life, for the humble abode I had prepared for her, where she could have few of her accustomed comforts, and little society but that of her husband's whose hammer and anvil must daily ring out those music notes that were to take the place of the piano and guitar. Is it any wonder that I should feel a new motive to effort, when the all of happiness is in life of such a girl was committed to my care?”

“After a journey of ten days, which could now be accomplished in half the time, we arrived at our *home*—humble and plain though it was, contentment, health and prosperity made it a happy one to us, till my father's health failing, he wished me to enter as a partner in his business at F. I felt it my duty to comply with the wishes of my father, and accordingly sold my possessions, again taking up the line of march towards F. Our first stopping place was Tobique, on a small stream which empties into the St. John's river, 120 miles above Fredericton. At this place is a settlement of about three hundred Indians, a remnant of the Tobique tribe, who have made considerable advances in civilization and the arts of life. Finding we must wait nearly a week for a steamboat, we concluded to hire an Indian to take us the journey in a birch canoe—quite a pioneer way of traveling, and not altogether pleasant to Sarah, who had never before seen such a fragile conveyance. Then the idea of crossing the rapids in such a craft, freighted with three living beings, was quite a parallel to the case of the three wise men of Gotham. Her good sense enabled her to overcome any repugnance to the proximity of the

stalwart Indian navigator, Sodus, whose father assured us would carry us as safely as himself could, and whoever thought of doubting the ability of 'Old Sodus' to navigate a birch canoe wherever water ran? Having bestowed our baggage, Sodus placed me at one end of the canoe, Sarah in the centre, himself in the other end, and with the simple injunction, 'now keep straight,' we committed ourselves to the beautiful river, whose banks in many places are overhung with majestic trees, the growth of centuries—at others, the cultivated domain of some thrifty farmer approaches the water and opens up a view suggesting thoughts of simplicity, beauty, comfort and innocence, scarcely compatible with a more densely populated country. Our frail bark would scarcely admit of a change of position, but weary nature would occasionally compel us to stretch a limb, or vary the posture, any such demonstration would invariably call forth an admonitory grunt from our taciturn Captain, and a corresponding dip of the paddle to keep the equilibrium of our craft. As we approached the rapids, how vividly did some of Cooper's descriptions of the cunning and skill of the Indian in guiding the bark canoe among foaming waters and unseen rocks, making his intuitive cunning more than a match for the white man's intelligence; how vividly, I say, did those scenes arise before my excited imagination.

As we entered the rapids our voices were instinctively hushed, the boiling eddies foamed and dashed among the rocks, where I fancied we might the next moment be dashed. Sarah, pale as marble, gave no utterance to her thoughts. Instinctively I stretched out my arms to support her, but a word from Sodus reminded me to 'sit still or man tip over canoe.' Sarah closed her

eyes, looking more like a dead man than living woman, till she felt that we were in smooth water, when the grateful tears gushed forth and relieved her overcharged heart. What would you have done, said I to Sodus, if we had got into the river? 'I do,' said he, 'I take squaw and swim out.' What should I have done, I asked? 'Take care yourself.' A joke that sounded better at the end, then it would have done at the beginning of the passage. The next day we arrived at F., where I paid our faithful Indian friend eighteen dollars for his services, and dismissed him with our grateful thanks for his faithfulness.

But fortune had not yet done with our friend. He invested one-half his property in business with his father, leaving the other half to accumulate interest in the hands of a lumbering firm.—A depression in business came on, ruinous to the branch in which he was engaged, and causing failure after failure in other interests. The firm whose notes he held failed to pay anything, thus he was again *poor*. To add the bitterest regret to his cup, Death was busy with his friends.—First the fatal shaft was leveled at his venerated father, than a favorite brother was killed by accident in the machinery of a factory, near their native town; the wife, by the shock, was prostrated on a bed of sickness, soon to join her husband in the unseen world. The wives of the brothers were sisters, and how gladly would Frank and Sarah have administered consolation to her crushed and broken heart, but poverty held them back. He says—'this was the severest of all our trials, and but for my true-hearted and hopeful wife I might have sunk down to despondency, but let any man do that who can, with a wife by his side possessed of a hopeful heart and helpful hands, I could not.

Selling their furniture to pay the expenses of the journey, Frank Asbury returned to his native town, where he went into business with another elder brother. In about six years he has, by the blessing of God on his endeavors, secured what his well-balanced mind considers a competency, consisting of a beautiful cottage home, containing besides room enough for his own family and visitors, a cozy room and arm-chair for his venerated mother, whenever she chooses to occupy it. Aside from this, he has a little fund on which to draw for his own benefit and that of his friends who have been overtaken by 'hard times,' while ill-prepared to sustain the shock. Through all this, he can say with one of old, 'I walked in mine integrity.' He closes his letter with language like the following, with which I heartily concur in sentiment:

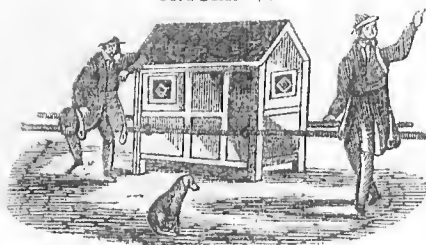
'It is true I am comparatively young, yet my experience has taught me to believe that a young man beginning life with habits of forecast, temperance and a strict adherence to the Saviour's 'Golden rule,' will ultimately get beyond the reach of such financial disasters as occasionally sweep the country, and call forth the oft reiterated and heartfelt cry 'how shall I obtain food for myself and family?'—*Rural New Yorker*

OUR GENERAL AGENT.

MR. ABRAHAM TERRILL, of Rahway, N. J., has been appointed to act as our general agent for the collection of subscribers and the transaction of all other business pertaining to the Magazine, as he sojourns throughout the eastern country. He will probably visit Canada early in the fall.

EARLY HISTORY OF WHEEL CARRIAGES.

CONTINUED.
CHAPTER V.



SEDAN, 1638.

Having already introduced the Sedan, our remarks under this head would be incomplete should we fail to illustrate it, or speak of the Sedan traveling in the East, a practice so prevalent in modern as well as in ancient times. (We quote the following from Knight). 'There is a very frequent mode of traveling observed in oriental countries, in which though a carriage is employed, no other bearers than men are necessary. In most cases these arrangements are made where, while on the one hand the wealthy and the noble disdain to walk on foot, and on the other the roads are so imperfect for wheel carriages that they could not progress in safety. In such instances the Sedan of course became a convenient mode of traveling.

In India, in the absence of good roads and efficient traveling arrangements, a very peculiar system called the *drawk* or *dak* is adapted. This is a kind of post system for the conveyance of letters, and also a quick mode of traveling for individuals. There are persons employed as *drawk*

runners, to convey the letters and to bear the Sedan in which the travelers are seated. When the runners are engaged in the conveyance of an express, they travel at the rate of from five to six miles per hour. But with a large burden of mails they attain only about three and a half to four miles. The road is divided into stages varying from five to ten miles each. The runners act on a continued system of operations in the following manner: The journey is divided into stages or courses and there are two runners to every Sedan or mail box, on said stages. One train of sedans start from one end of the course and another from the opposite, until they meet on the following day when they retrace their steps, so that they proceed to and fro alternately. Besides this system between the two trains, there is an interchange between the runners of two adjoining courses, when having arrived at one end of the stage another is met which has just come from an opposite direction; along the adjoining stage they exchange mails and each retrace their steps. There are stations or meeting places where these interchanges take place.

The Dawk runners are divided into two classes, the Bangy Burdars of whom we have just spoken, and the Palanquin Burdars who carry travelers. The palanquins employed for this latter purpose are a kind of sedan with the poles resting on the shoulders of the bearers (similar to the one illustrated in the Jan. No. of the Mag.) The men and palanquins are supplied by a kind of post master in the employment of the government, and the fare is paid in advance. There are bungalows or stations at distances of ten or fifteen miles apart, in which a sort of rude inn accommodation is obtainable. Bishop Heber describes a dawk journey which he made, and from which description we learn that only four persons can put their shoulders to the palanquin at once, but that many others are provided to alternate with these four and to assist in passing difficult and dangerous parts of the country. The clothes and writing desk of the traveler were placed in two wicker boxes, which one man carries slung in a bamboo across his shoulders. Heber says: Such is the usual

style in which dawk journeys are made in India, and it may serve as an additional proof of the redundant population and cheapness of labor, that this number of bearers are obtained for unpleasant work, at about twelve shillings per stage or trip, varying from six to ten miles. The men set out across the meadows at a good round trot of about four miles an hour, grunting all the while like paviors in England, a custom which like paviors, they imagine eases them under their burden.

This kind of palanquin traveling, as we have already observed, is not by any means uncommon in the East. It is also a prevalent mode in China, where out in the streets a mandarin of high rank would (Mr. Davis informs us,) be considered degraded, except in a chair of four bearers. In Japan too, little as we know about the country in any sense, there is abundant proof of the palanquin system being a favorite one. Capt. Sairs, an old writer who visited Japan two centuries ago, thus speaks of the traveling arrangements he met with: "I had a palanquin or one of their sedans provided for me, and a fresh supply of men drawn out from every place successively, for the office of carrying me therein when I became tired of my horse, and for the greater state, a slave appointed to run with a pike before the palanquin. The King's barbers also went before and took up our lodgings on the road. This part of the journey was very pleasant and easy, the way for the most part was exceedingly even and plain and wherever there was any rugged mountains, a smooth level passage was cut through it. This road (one of the great roads through the Island of Nippon) is all along good gravel and sand. It is divided into leagues for the benefit of travelers, and at every league of road are two small hills raised on either side, and upon each of them a fare tree planted, the design of which marks is to make travelers competent judges of the length of their own journeys, so that they may not be abused by the hackneyman who let out horses, and pay for a greater number of miles than they have ridden."

At this period it may be presumed that coaches were almost universally used, not only for short distances, but also for long journeys. We find according to Knight, that it was two years before the date of this calculation, that the first hackney-coach stand was established in London. Garrard thus describes it in a letter to Stafford: "I cannot omit to mention any new thing that comes up among us, though ever so trivial. Here is one Captain Bailey; he hath been a sea captain, but now lives on land and about the city, where he tries experiments. He hath erected according to his ability, four hackney coaches; put his men in livery and appointed them to stand at the May Pole in the Strand, giving them instructions at what rate they should carry men in different parts of the town, where all day they may be had. Other hackney-coachmen seeing this way, they flocked to the same place and performed their journeys at the same rates, so that sometimes there is twenty of them together, which disperse up and down. They and others are to be had everywhere, as watermen are to be had by the water side. Every body is much pleased with them, for whereas coaches could not be had but at great expense; but now a man may have one much cheaper." Writing two months after, the same retailer of news says: "Here is a proclamation coming forth about the reformation of hackney coaches, and ordering of other coaches about London. One thousand nine hundred was the number of hackney coaches of London; base, lean jades, unworthy to be seen in so brave a city, or to stand about a King's Court." In 1634 he writes: "Here is a proclamation coming forth to prohibit all hackney coaches to press up and down in London streets. Out of town they may go as heretofore." It is perfectly clear that the King might proclaim, and that his subjects would not hearken to him as long as they found hackney coaches essential to their business or pleasure. We have an amusing example of the inefficiency of such meddling twenty-five years after. Pops in his "Diary of 1659" writes: "Notwithstanding this is the first day of the King's proclamation against hackney coaches coming into the streets, and to stand for hire, yet I got one to carry me home." We think we hear his cunning chuckle as he hires the coach, and laughs in his sleeve, while entering, at the wise law makers of his day.

When Prince Charles, afterwards Charles I, returned from his faithless wooing of the fair daughter of Philip IV, we are told he brought with him three Sedan chairs of curious workmanship. At this period such a mode of conveyance was unknown to the English. They had seen the fair and feeble carried in a box supported by two horses, one before and one behind. They felt that they were degraded when the favorite of James and Charles Buckingham first moved into the streets of London, borne in a Sedan chair on men's shoulders.

Baby Charles had presented Steenie with two of those luxuries of foreign growth. Wilson says, when Buckingham came to be carried in a Sedan chair, on men's shoulders, the clamor and noise of it was so extravagant, that the people would rail on him in the streets, loathing that men should be brought to as servile a condition as the horses. The year of the expedition of Charles and Buckingham to Spain, 1729, was Massinger's Bondman produced. Charles the favorite, returned to London ear-

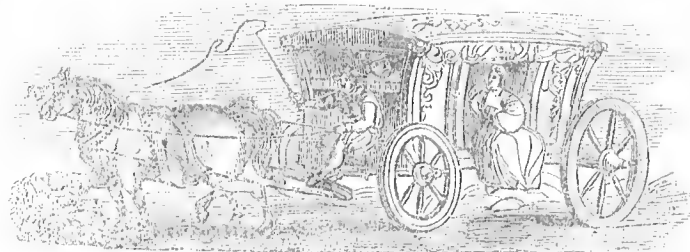
ly in October; when the play was first acted on the third of December, which contained these lines:

"Tis a strong lim'd knave:
My father bought him for my sister's litter."

O, pride of woman! Coaches are too common; they surfeit in the happiness of peace, and ladies think they keep not state enough, if, for their pomp and ease, they are not borne in triumph on men's shoulders. Gilchrest Gifford thinks this was an allusion to Buckingham. If so, (and there can be little doubt of the matter) the vain favorite must have paraded with his new luxury, degrading Englishmen into slaves and beasts of burden (as a writer of that day expressed himself) upon the instant of his return. But the popular clamor was as ineffectual against the chairs as against the coaches. In 1633, Garrard writing to Lord Stafford, says: "Here is another project for carrying people up and down in close chairs, for the sole doing whereof Sir Sander Duncombe, a traveler, now pensioner, hath attained a patent from the King, and hath forty or fifty making ready for use." The coachmen and chairmen soon got up a petty quarrel, and in 1636 we find published the amusing tract of Coach and Sedan, which we have already quoted.

The title exhibits to us the form of the Sedan with its bearers toting for custom, and we have a description of the conveyance and its men, which with the engraving that accompanies it, clearly enough shows that the chairmen no longer bore the litter palanquin fashion, but that they quickly adopted the mode of carrying, which has lasted till a late period; however, the form of the thing carried has materially changed.

We now have the coach and chair fairly landed into the streets of London, of which they held joint possessions for more than a century and a half. We have no doubt the chair was a most luxurious invention, but the multiplicity of labor attending its use was anything but desirable. The state of the pavements till the middle of the last century must have rendered carriage conveyance anything rather than safe and pleasant. Dulawre tells us that before the time of Louis XIV, the streets of Paris were so narrow, particularly in the heart of the city, that carriages could not penetrate into them. D'Avenant's picture of London before the fire is not much more satisfactory: "Sure your ancestors contrived your narrow streets in the days of wheelbarrows before those greater engines carts were invented. Is your climate so hot that as you walk out you need umbrellas to intercept the sun, or are your shambles so empty that you are afraid to take in fresh air lest it should sharpen your stomachs? O, the goodly landscape of old Fish street, which, had it not the ill luck to be crooked, was narrow enough to have been your founder's perspective, and where the garrets, (perhaps not from want of architecture, but through abundance of anity) are so made that opposite neighbors may shake hands without stirring from home." The chair had a better chance of course than the coach, under such a state of circumstances. In the drawings of coaches of the time of Queen Elizabeth, the driver sits on a bar or narrow chair very low behind the horses.



QUEEN ELIZABETH'S CARRIAGE IN THE 15TH CENTURY.

In those of Charles I he sometimes rode this way, and other times rides as a postillion. But the hackney coachman after the restoration, is a personage with a short whip and spurs.

He has been compelled to mount one of his horses, that he may more effectually manage his progress through the narrow streets; his coach too is represented as being a small affair, as Davenant describes the coaches as very uncasily hung, and so narrow that he took them for Sedans on wheels. As the streets were widened after the fire, the coachman was restored to the dignity of a seat on the carriage, for in the time of William III we invariably find them sitting in a kind of box. This was a thing for use, and not so much for finery, although it added materially to the appearance of the vehicle.

To be continued.

THE COACH-MAKERS' MAGAZINE.

ADVERTISING DEPARTMENT. TO COACH HARDWARE & TRIMMING MERCHANTS & MANUFACTURERS.

All persons engaged in the above business, can now have the opportunity of introducing their houses to over *twelve thousand* Coach-Makers throughout the United States and Canada by advertising in the COACH-MAKERS' MONTHLY MAGAZINE, a Journal which is devoted exclusively to the art of coach-making in all its various branches. This is the only medium through which such houses can advertise to good advantage.

TERMS OF ADVERTISING.

Standing advertisements \$12.00 per square for one year; (twelve lines making a square,) payable within three months from the time of first insertion.

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PLATED COACH TRIMMINGS.

WHITE & BRADLEY,

28 Cannon Street,
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MANUFACTURERS OF
COACH & SADDLERY
HARDWARE.



EVERY VARIETY OF PLATED Trimmings for Coach, Calash; and smaller Carriages, Fine Coach Lamps of various patterns, Bands, (new styles,) Handles, Curtain Rollers, Mouldings, Pole Crabs and Hooks, Buckles, &c. &c. Any of our Trimmings, Plated in Silver, Brass, or Princes' Metal, are warranted to give satisfaction. Bridgeport, Conn., July 1855.

H. GALBRAITH & CO.,
Silver, Brass & Electro Platers,
And Manufacturers of
COACH & SADDLERY TRIMMINGS,
Cook's Improved Carriage Knobs,
AND FINISHING SCREWS,

Improved Solid Head Silver and Japaned Lining and Band Nails,
SILVER AND LEAD MOULDING,
SPRING CURTAIN BARRELS,

Nos. 2 and 3 Japaned and Silver Cap'd Carriage Knobs, Spring Calashes, Door Amulles, Inside do., Scroll Foot Board Handles, Calash Trimmings, Card and Name Plates, Lining Band and Saddle Nails, with unmounted points—Top Prop and Nuts, Joints, Rivets, Hub Bands, Shaft Pins, Pole Hooks and Crabs, Self-adjusting Saddle Trees, Hames, &c. &c.
FRANKLIN, NEAR CHAPEL ST., NEW HAVEN, CONN.
July 1855.

RAHWAY SPRING WORKS,
RAHWAY, N. J.,

Manufacture every variety of Car, Carriage, Buggy, Sulky, and Spring Springs, from the best quality of Steel.
A trial of our Work is solicited.
E. HAYDOCK, Proprietor,
J. GATCHELL, Agent.
July 1855.

Oldest & Largest Establishment
of the kind in the United States.

CHARLES PEARL,
Brass & Silver
CARRIAGE BAND
MANUFACTURER,

423 & 425 MAIN STREET,
POUGHKEEPSIE, N. Y.

I AM CONSTANTLY GETTING UP NEW AND tasty Designs for Carriage Bands, which for Beauty and Chastity cannot be rivalled. Any new patterns made by sending me a description of them.

Also manufacture the celebrated Princes' Metal Bands.

Also manufacture and have constantly on hand a large and well seasoned stock of Bent Felloes, Shafts, Poles, and Turned Spokes of the different varieties of Wood, and Seat Rounds of every style.

TERMS—Six months for approved paper, or five per cent. off for Cash.

N. B. None but dealers supplied.
July 1855.

LOOK HERE!

Coach Factory for Sale.

AT NORTH LIBERTY, ADAMS CO., OHIO.

THE UNDERSIGNED TAKES THIS METHOD of informing the coach-making public, that wishing to retire from the business, he now offers for sale his shops and his entire stock of unfinished work, together with a fine assortment of tools, &c. This shop has a regular custom, and one that will justify the employment of 20 hands, if desired, and is situated in a rich and healthy portion of the State, on the Plank Road leading to Ripley. Its location is about half way between Maysville and Hillsborough, with no opposition nearer than Maysville, (south) 20 miles, Georgetown, west, 20 miles, Hillsborough, north, 25 miles, and Portsmouth east 60 miles.

Further information can be obtained by addressing the undersigned as above.

J. R. GATES.

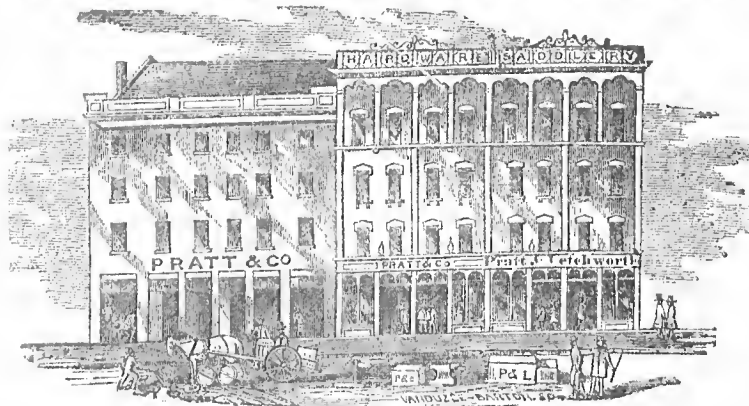
N. B. Also, an excellent Cottage House will be sold with the above if desired. Terms will be satisfactory.
[March-3t]

SAMUEL F. PRATT,

PASCAL P. PRATT,

WM. P. LETCHWORTH.

PRATT & LETCHWORTH,



MANUFACTURERS, IMPORTERS & DEALERS IN EVERY DESCRIPTION OF
SADDLERY, COACH & TRUNK HARDWARE,

Have removed to the Buff-Color Brick Store, No. 34 Terrace Street,
Opposite the Western Hotel, and adjoining the Hardware Store of Messrs. Pratt & Co.

BUFFALO, N. Y.

[June 1855.]

SMITH & VAN HORN,

IMPORTERS OF AND DEALERS IN

CARRIAGE HARDWARE, TRIMMINGS, &C. &C

No. 70 Beekman Street, between Pearl & Gold Streets,

NEW YORK.

HAVE ALWAYS ON HAND

Springs—all qualities, Axles—all kinds, Malleable Castings, Carriage Bolts—Eastern & Philadelphia, Patent Leather, Enameled do., Painted Cloth, Enameled Muslin, do. Drills, do. Duck, Broad Cloth—all colors, Damask—Worsted and Cotton, Orleans Cloth—Silk Stripe, do. Plain, Brocades and Cotelines, Curtain Silks, Silk and Worsted Couch Lace, do. Fringe and Tassels, Brussels and Velvet Carpet, Oil Cloth Carpet, Caliche Fixtures, Spring Barrels, Curtain Frames, Coach and Buggy Lamps, Lining and Saddle Nails, Rein Hook Levers, Brass and Silver Top Drops, Curled Hair and Moss, Turned Spokes, Morticed Hubs, Bent Felloes, do. Poles, Carriage Bows, Bent Shafts, Carved Carriage Parts, do. Spring Bars, Bands, Locks, Knobs, Tacks, Screws, Joints, Handles, Files, Shaft Jacks, Buggy Wheels, Sand Paper, English Coach Varnish, American do., do. Brown Japan, English Black Japan for Iron Work, Wrought Iron Fifth Wheels, as well as all other articles used in the manufacture of Carriages.

S. & V. H. from their long experience in the business, think that their stock, which has been selected with great care and with a view to supply consumers, will, for quality and price, favorably compare with any other in the market, and solicit a trial from Carriage Manufacturers.

N. B.—English Varnish and Japan, put up in 1 Gal. Tin Cans.—Price of Carriage Varnish, \$5.—Body, do., \$5.75. Japan, \$5. Enameled Leather Varnish \$6 per Gal.
[June 1855]

SPRING PERCUT COMPANY,
M. STERLING, Sec'y.

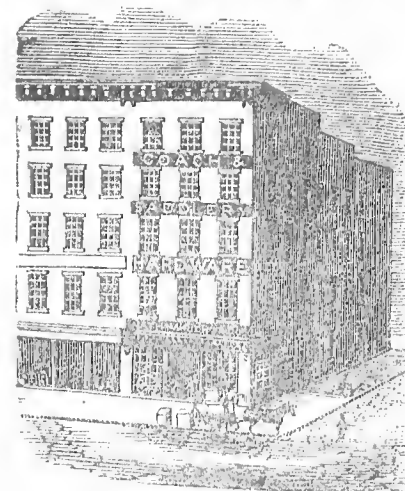


PLATE XV.

SALADDEE'S Patent

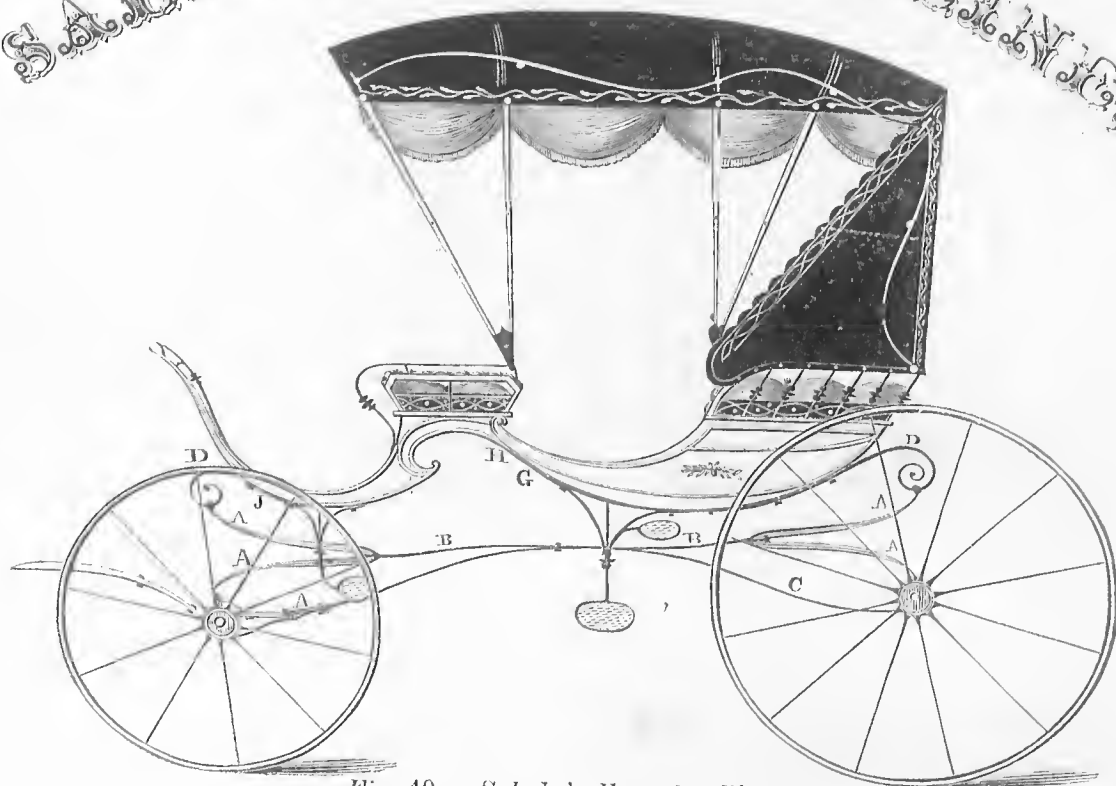


Fig. 40.—Saladde's Extension Piveton.

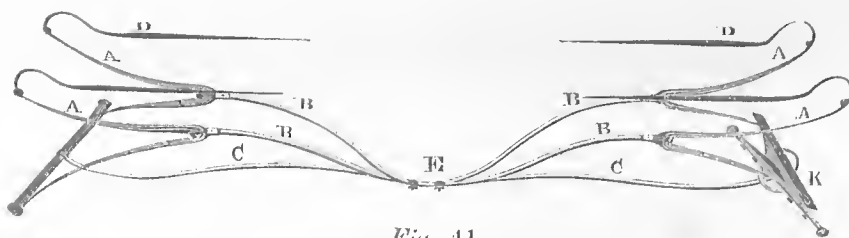


Fig. 41.

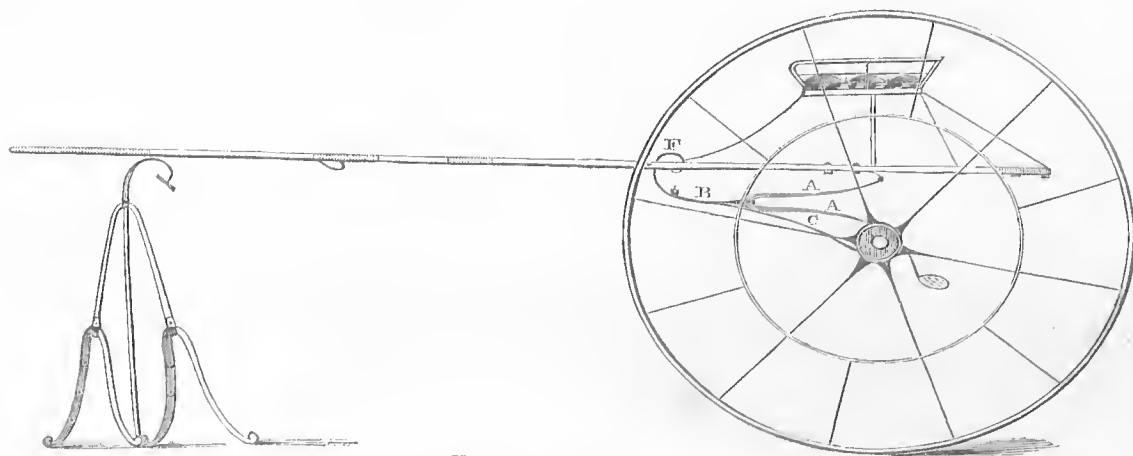


Fig. 42.—Sulky.

NEW YORK, AUGUST, 1855.

PLATE XVI.

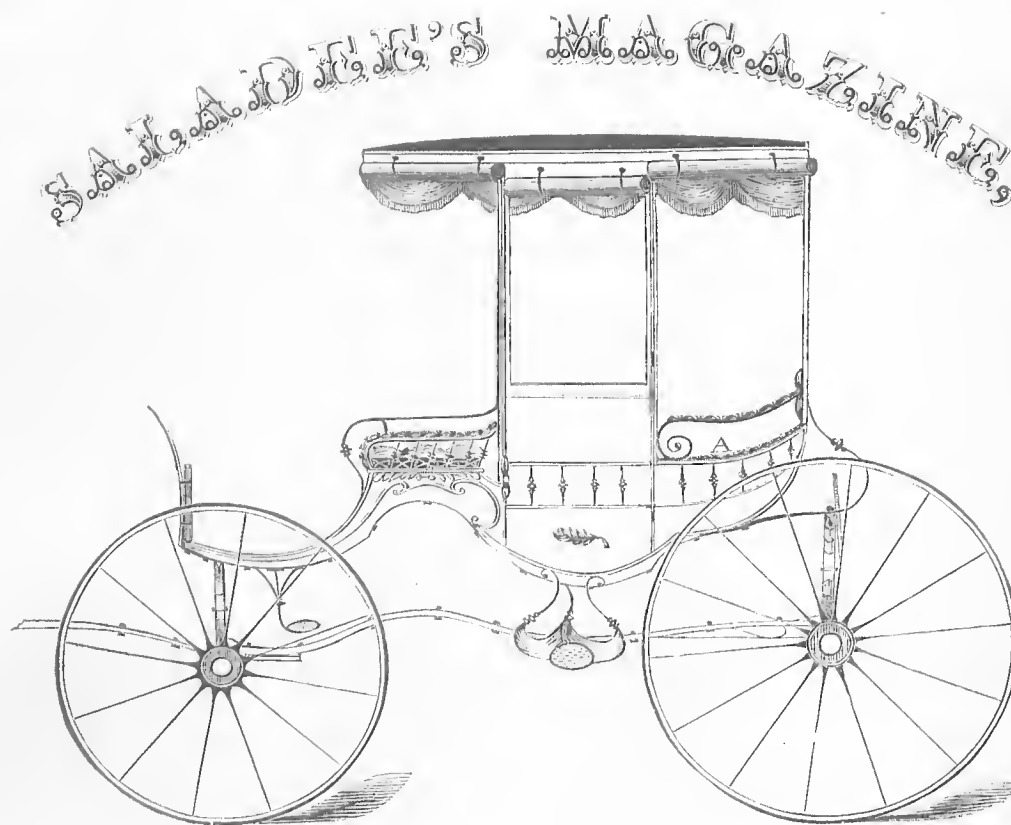


Fig. 43.—Light Rockaway.

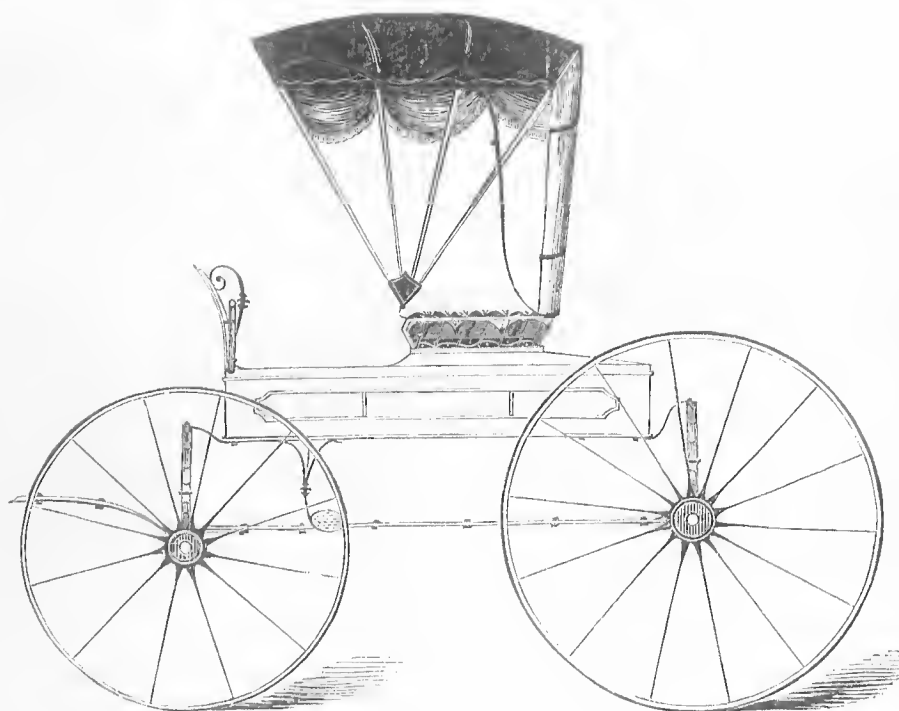


Fig. 44.—Box Buggy.

NEW YORK, AUGUST, 1855.

THE COACH-MAKERS' MAGAZINE.

C. W. SALADEE,

EDITOR and PROPRIETOR.



VOLUME I.]

NEW YORK, AUGUST, 1855.

[NUMBER 8.]

TERMS:

Single subscription	one year	- - -	\$3 00
Clubs of three	"	- - -	8 00
" " six	"	- - -	15 00
" " ten	"	- - -	20 00

Payable invariably in advance.

All Clubs, however, must be sent to one address.

Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented, stamped on the cover in gilt letters. All communications must be addressed to the Editor at his residence, Columbus, Ohio.

EXPLANATIONS OF THE DRAFTS.

FIG. 40.—SALADEE'S EXTENSION PHAETON.

The carriage represented by this illustration is an Extension Top Phaeton—four passenger, the design of which we have collected from the English Phaeton, the Crane-neck Coach and the light Trotting Buggy, which collections we have so employed in its construction, as to render each design of the above named vehicles distinctly perceptible to the eye at first sight. As it will be seen by referring to the draft that that portion of the body under the front seat, and forward to the point of the dash is precisely the same front as that to the Crane-neck Coach, (only reduced to its proper limits) and that part of the side under the back seat extending forward and terminating under the back part of the front seat with a scroll, is a correct miniature of the original English Phaeton, and the entire arrangement of the back seat is after that fashion now so prevalent to light trotting buggies. The front seat is that of the ordinary style for extension tops generally. With all this variety of style it is nevertheless extremely simple and easy in its mode of construction, and which is intelligently explained by simply remarking that it is a solid side body with the side attached to the rocker in the ordinary way, which latter extends forward and forms the crane-neck and scroll; side moulded off as shown in the illustration. The rocker at H should not be exposed at that point more than the width of the moulding, which runs out from the scroll, so that this moulding can be terminated where the inside edge of the same will touch the side at point H as it would not be desirable to have it extend around the lower edge of the

rocker farther than to this point, and by this arrangement a beautiful finish is effected.

For the support of the bottom from G to J it would be advisable to clamp a piece of ash 1 in. thick on the inside of the rocker to extend from point G to J within the thickness of your board, and panel of the bottom edge, to which the bottom between those points should be fastened. The piece here referred to should drop perpendicular when it comes to the short curve of the scroll, as represented by the dotted lines. Thus when the scroll panel (which is but 3 owing to the short turn) is put in the end of the scroll will project out from the bottom at this point about 2½ inches. We have applied the gipsy quarter to the top and for which we think it very appropriate.

In this drawing we have introduced Sprout's Combined Spring and Coupling. A A A A are the Springs; B B are the diagonal braces and C the centre perch all of which can be formed to correspond to any shape of body. D D are the loops on which the body rests, which are also subject to any peculiar shape which the manufacturer may desire, or the shape of the body demand. The Everett Coupling is applicable to this spring with the same simplicity as to ordinary carriages.

Fig. 41 is a representation of those springs applied to the carriage with wheels, and body detached, in perspective. The springs A A A A being attached to the hind axle and the spring bearer K near each wheel, also taking the body loops at D D D D. B B are the diagonal braces passing from one end of the spring bearer K to the hind axle. C C is the centre perch passing from bolster pin to centre of axle in the rear; all three of which, braces and perch, are finally bolted together at the centre M. The body then being attached, the whole carriage is then thoroughly braced in every direction. The springs A A A A vibrate perpendicularly over the centre of the axles, while at the same time the perch is a little depressed, causing a very slight rotary motion of the axle, which is more than counteracted in the variation of set by the springs being applied near the shoulder of the axle, instead of the centre, as with the elliptic. However, this slight rotary motion does not operate upon the axle to such an extent as to effect the set thereof in the least, or at all events to no greater extent than does the vibration of the axle common

in all light elliptic spring carriages. The whole being thus firmly connected together, and constructed entirely of spring steel, no sudden jars are perceptible while passing over obstacles. But being a spring brace gives timely relief to the whole carriage, and consequently not so liable to get out of repair.

FIG. 42.—SULKY WITH SPROUT SPRINGS, AND OLIVER'S IMPROVED WHEEL.

With this illustration we present to our numerous readers something entirely new in the way of a sulky. Messrs. Booth & Bro.'s of Columbus, Ohio have just completed a Sulky with the application of Sprout's spring, and which we have had the pleasure of testing to our heart's content, and in justice to the inventor of this valuable improvement we must say that we were never before carried over rough pavements and deep ruts on any two wheeled vehicle with such a soft and steady motion as we were in this Sulky. The easy motion and bracing position of this Spring is peculiarly adapted to vehicles of this denomination. No sensible man will ever be satisfied with an elliptic spring for a sulky after he has rode on the one just mentioned. A A are the springs attached to the axle and shafts as seen in our illustration. B is a continuous steel brace running from the vortex of each spring under the cross-bar, and on which brace the singletree rests. C is the centre perch passing from the centre of the axle under the vortex of the brace B and terminating in a scroll takes the cross-bar P.

Some time has elapsed since the main principle of this spring was patented, but within the last three months new principles have been added, and a different form given, which renders it altogether a new thing. It is our opinion, after a practical investigation, that no sulky spring now in use approaches nearer perfection.

To this sulky we have applied the improved carriage wheel of Mr. OLIVER, of Brooklyn, L. I., for which he obtained a patent on the 20th day of January last. "The improvement," says the Scientific American, "consists in the peculiar construction of the wheel, whereby light or small hubs may be used, and a more durable and stronger wheel made than the ones now in common use.

It is customary to use small hubs in the construction of carriage wheels; they are considered ornamental, and add much to the light ap-

pearance of the wheel. Large hubs would render a vehicle unsaleable. It will be seen that a small hub with mortices made in it to receive sixteen or eighteen spokes, will be much cut up or weakened, besides there cannot be much of a shoulder allowed for the spokes, as they are close together near the hub. By this improvement the hub has only half the usual number of mortices cut in it, and the long spokes (C), may have requisites shoulders at their ends adjoining the hub, so that they may be well supported in the hub, and prevented from working or becoming loose therein. At the same time the felloes composing the rim are well supported, as the usual number of spokes are inserted in them, the ring or band allowing the requisite support to be given the felloes by means of the short spokes, and also diminishing the number of mortises usually made in the hub. Thus a strong and durable wheel is obtained, the spokes are well supported by a ring or band, and prevented from twisting or bending when the tire is shrunk on the rim. Small hubs may be used and the cost of manufacture will not exceed that of the ordinary wheels."

We will hereafter illustrate this wheel separately with a sectional view, &c.; in the meantime we will have the leisure to investigate its operations, the result of which we will report accordingly.

For Saladee's Magazine.

FIG. 43.—LIGHT ROCKAWAY.

MR. EDITOR:—Enclosed you will find a drawing for a light Four Passenger Rockaway, which in all probability will in part be something new to many of your patrons, at all events the arrangement of the front seat is not a common thing.

This body is a solid side, which latter extends to A and is moulded off as represented in the drawing. The moulding running lengthwise the panel is continued across the door panel as seen in the draft. The front seat is not at all connected to the main part of the body, being set from the front pillar about 32 inches. The seat is made in precisely the same manner as those to ordinary buggies. The side under the front seat is neatly finished by carving as represented in the engraving.

I consider this a beautiful design for a carriage of this class, and is one which can be as cheaply constructed as any other of the kind, and at the same time it can be made a more showy and expensive affair by finishing the back quarter with a close panel and windows, and the doors with sliding glass. Also by the application of a moveable partition across the body between the pillars immediately back of the front seat, together with a close panel and sliding glass in the back. In either case this carriage will present a light and easy appearance.

A. T.

For Saladee's Magazine.

FIG. 44.—BOX BUGGY.

MR. SALADEE:—The drawing we herewith send you is of a style of buggy we are now building, and selling more of than any other form of one seat top buggies. We consider these the most profitable buggy the manufacturer can get up, (owing to their simplicity of construction) and at the same time the most roomy, convenient and durable vehicle of the kind that

the customer can purchase. The side is solid up to the bottom of the seat, which latter rests on the usual frame work on the inside of the side panels. The sides are 3 in. thick, of white wood: No rocker used, the bottom being fastened on the top side of the sill, inside.

A. P. & CO.

The Coach-Makers' Magazine.

AUGUST, - - - - - 1855.

TAKING A PARTNER.

A young friend and brother chip in Georgia has asked us to publish our opinion (or if possible our experience) in regard to taking a partner; do we think it prudent under all circumstances to do so; if not, when would we advise a young man who is in the act of launching his bark upon the tide of business to take a partner.

Now if our worthy correspondent had been a little more particular in stating as to what kind of partnership he was about to enter into we might perhaps answer his inquiries more directly, but upon reflection it matters little to us whether he means a partner for life or a partner in business, we will endeavor to give him a short chapter by the aid of Mr. Freedley, on both, which we trust will be carefully read, especially by the young men in our ranks.

Partnership is prudent or not according to the nature of the business and the relative situation of the parties. It is prudent in an extended business where each partner will have separate and distinct duties, or where it is necessary for them to be in different places, without a constant supervision of the others. It is prudent in cases where one furnishes capital and the other knowledge, good character, and activity. But it is imprudent to form an ordinary partnership to carry on a small business, where every transaction would be likely to come under the supervision of both. It is imprudent to enter into partnership with a *covetous man*, or a *very passionate man*, or an *obstinate man*, or a *revengeful man*, or a *familiar crony*, or a *man involved*, unless it be a limited partnership, in the case of a creditor, with a view of escaping greater loss. And, in general, it may be said to be imprudent where the business can be managed with a reasonable degree of success without it.

"The trust reposed in copartners," says a distinguished commercial lawyer, "notwithstanding all precautions, is wholly indefinite and unlimited. And when one thinks of forming a connection of copartnership with another, he should ask himself if he is willing to trust him with the power to ruin him; for such and no less is it. He will, therefore, be careful to consider not only his business capacity as a man of shrewdness, of skill, of experience, but will need to look into his social and moral qualities. Is he a man of good temper, with whom difficulties will not be likely to occur? Is he placable, one who will not lay up the memory of an accidental

slight, of a heated expression, or of an unreasonable wrong, which you have done everything in your power to redress? Is he a man keen in the pursuit of his own interest? Will he listen to any candid views adverse to his own? Will he in a difference between you be willing to unite with you in consulting mutual friends as mediators? Are you sure of his principles? Do you know his associates? All these are questions not merely of taste and curiosity, but entering into the very essence of your decision as to a partner."

Marriage is a matter in which there is so little "demonstrative evidence in the proofs," that, if it were generally entered into on prudential grounds, it might be considered a test of judgment. The apostle Paul intimates that it matters little whom, or from what considerations a man marries, the result will be all the same; and mankind frequently take that view, believing that possibly they will have leisure to repent it. "But and if thou marry, thou hast not sinned: and if a virgin marry she hath not sinned. Nevertheless, such shall have trouble in the flesh: but I spare you." 1 Cor. vii. 28.

But, though it may often demand a seer's power to divine the character of the wife in that of the girl, and however willing men may be to sacrifice themselves, if need be, on the altars of the blind god—we deem it a duty to offer one suggestion, for the consideration of those who, in this predicament, have one of their five senses yet in a healthy condition—and that is, that they strive at least to ascertain whether their choice be *meddlesome*, or *desponding*, or *extravagant*. A sprinkling of ugliness, and a spice of temper; a tinge of vanity, and occasional attacks of folly, are trifles; but he, whose wife is always meddling and never understanding—or forever croaking evil, and doing nothing to avert it, or unceasingly crying give, give, and never economizing, must either fold his arms in listless despair, or with an iron will summon a supreme contempt for her and her wishes, her words and deeds. Neither horn of the dilemma is a pleasant one, and in relief, we give the following picture drawn for the model wife of a statesman, but which will answer equally well as a mirror in which the model wives of accomplished business men may see themselves reflected. "The wife of a statesman's choice should be sound in health, and of a light and easy temper, neither jealous herself nor giving cause for jealousy; neither going much abroad, nor requiring her husband to be more at home than his avocations will permit; fresh in her feelings and alert as to her understanding, but seasonable in the demonstration of either, and willing at all times to rest contented in an intelligent repose."

The proper time or age for commencing business on one's own account is a mooted question. It is imprudent in any one to embark in business without that moderate capital ordinarily required in the business. It is imprudent in a young

man to accept a loan from a money lender, giving his friends as security, in order to get that moderate capital. *But suppose that the friends of a young man who is of age and out of his apprenticeship, propose to furnish him the necessary capital to set up business, is it prudent in him to embark?* We will merely express a few of the arguments on both sides, and leave it to the exercise of the individual judgment. A good deal undoubtedly depends on the previous education, and the extent of his knowledge. On the one side it is stated that experience is a relative term; a man at twenty-one has frequently more knowledge, than men of forty. Knowledge, not experience, is the one thing needful. Experience is only one of the ways of arriving at knowledge. "Wise men are instructed by reason; men of less understanding by experience; the most ignorant by necessity, and beasts by nature." The mind is a thing of impulse, of quick penetration; it acquires its knowledge of life by bounds and flights. In war, literature, and statesmanship, the greatest exploits of the most renowned men have been performed at an early age. Hannibal crossed the Alps before he was twenty-four. Alexander the Great died at thirty-three; Byron wrote *Childe Harold* at twenty-one. Bonaparte was first consul before he was thirty. "Of all the great human actions ever heard or read of," says Montaigne, "of what sort soever, I have observed, both in former ages and our own, more have been performed before, than after the age of thirty; and oft-times in the very lives of the same men. May I not confidently instance those of Hannibal, and his great competitor, Scipio? The better half of their lives they lived upon the glory they had acquired in their youth; great men, 'tis true, in comparison with others: but by no means in comparison with themselves."

On the other side, we have the general observation of mankind, that those who have been the most successful in business, have generally begun life with "an axe and a tow-shirt," and worked themselves gradually up. We have the facts that Girard was a poor man at thirty and even at forty; that Rothschild did not get his capital of £20,000 till after he was thirty years old: that at thirty Astor had not made his first \$1000, which, he says, was harder to make than all the others. We have the assertion of men who have spent twenty years in their avocation, that, although they thought themselves wise when they began, they were exceedingly ignorant. We have the knowledge that an energetic prosecution of business makes large draughts on the physical constitution; and the assertion of medical men that the frame does not harden till thirty; and, lastly, we have the example of our Saviour, who, although able to confound the doctors at twelve, did not commence his ministry till he was thirty years of age. Now, when doctors disagree, who shall decide? We will merely remark, that a man who has, or can obtain, a

good situation, should not abandon it from slight reasons; that the task of the employed is easier than the employer; and that the reputation of doing business on one's own account is a consideration too trifling to influence a wise man's decision.

IMPROVEMENTS IN CARRIAGES.

There is no branch in the construction of carriages that has taxed the inventive genius of the present age of improvements to a greater extent than that of the spring. Ever since the old and well tried elliptic made its first appearance, has the ingenious mind of the cunning workman been eagerly engaged in the laborious study of devising some plan or to discover some principle that would lead to the establishment of a spring which would excel the latter in point of strength, lightness, and elasticity.

Numerous attempts have been made, and some few have succeeded in gaining the above points as an advantage over the elliptic, but they are alike objectionable from the fact that they limit the form of the body and confine it to one peculiar shape, and also the weight of the whole machine being so arranged as to bear up the springs perpendicularly at the centre between the two axles, and thus causing a rotary motion to take place, which materially affects the set of the axles.

We are happy to state, however, that the new spring illustrated in this No. entirely obviates these evils, and at the same time retains the three advantages above named. We have just completed a light trotting buggy with these springs, and after giving them a thorough trial over the most rough and uneven roads that any wheeled vehicle has ever been introduced to, we are fully convinced that no spring has ever yet been produced which is so perfect in all its operations as that manufactured by Messrs. Sprout, Burrows & Co., and most heartily do we endorse it as the most complete spring in every point of view ever offered to the American coach-makers. As before intimated, we do not make these statements from a mere investigation of the drawings and their mechanical operation in theory, but from practical demonstrations by their application to a buggy we are now running. And we are further satisfied that every judicious coach-maker in this country will employ them extensively in the construction of his work, as soon as their just merit is comprehended, and this can be readily accomplished if the manufacturers will but order one set and give them a trial.

Now Paul's doctrine was, that of proving all things and holding fast to those which are good; providing (we suppose,) such proving all things did not incur too much risk and expense on the part of the one pursuing it.

It will be seen by referring to the advertisement of these gentlemen that they do not place themselves before the public for the purpose of selling the right of their spring (and thus leave the carriage maker to run the risk of its operating to his satisfaction) but the *spring itself*, and

not only so, but they will give a written warranty if requested, with every set that leave their factories. That the spring will not only prove durable, but also that it will render entire satisfaction to every one who will try them, and in case of failure the money will be refunded. And as we can assure our readers that this Company is perfectly responsible for any contract they make, who, we ask, can object to testing their improvement under such circumstances. We trust no one.

For simplicity, lightness, and beauty of construction, together with the best possible arrangement of steel, to strengthen and thoroughly brace the carriage. It is fanciful to the eye, yet perfectly substantial and neat in appearance. Knowing what we now do from a practical investigation, we are not surprised that the patentee has chose to organize a company, and erected large and commodious factories for the construction of this spring, and under a warrant for one year, rather than to pursue the usual course of selling the right to manufacturers and others. The mode of construction being such, that when good materials are employed, there is not the least liability to get out of repair.

Owing, also, to the manner in which the craft have been humbugged for the past three years in the sale of a certain patent spring, the patentee could not expect under such circumstances to realize a fair compensation for his truly valuable invention. The honorable course these gentlemen are pursuing to introduce their springs will most certainly meet the approbation of every coach-maker who is desirous of purchasing.

PAINTING.—NO. 3.

PRACTICAL RECEIPTS CONTINUED.

Receipt No. 10.—How to mix pure white. Ing. turpentine, sugar of lead and clear Copal Varnish.

Receipt No. 11. How to prepare blue. This color is like green, a great variety of shades may be had by uniting white and Prussian blue in different proportions, and is prepared for application as other paints. (Drier, a small portion of boiled linseed oil and turpentine.)

Receipt No. 12.—How to proceed with the painting of a carriage part, &c. The first coat which is put on wood is boiled linseed oil, with a small portion of drier. This will prevent in a great measure the paint from blistering and peeling off. In 48 hours after this coat has been applied, you will then give it a coat of priming (as receipt No. 2,) when the work is ready for the smith shop. After it has been ironed, the wood work is smoothly cut down with sand paper, and when dusted off, apply another coat of priming (as above) over the whole carriage part. When this has become dry, you will proceed to putty up the work. The putty for this should be made of Spanish whiting, boiled oil and drier. When it is thoroughly puttied up, the carriage part is then left stand at least 48 hours, by which time the putty has become hard. It is then cut

down perfectly smooth with sand paper. This done and dusted off, apply one coat of the lead filling, (as receipt No. 5.) When this has become hard, the work is again cut down with sand paper, as before, and is now ready for the color. If it is to be black, mix the color for the first coat, (as receipt No. 6,) adding a small portion of boiled oil.

The next coat, omit the oil and make it a dead black. It now having two coats of color, you will next apply one coat of the same mixture of color, adding an equal proportion of copal varnish. This, when dry, will appear somewhat glossy. The next step in order will be to apply one light coat of clear coach varnish.

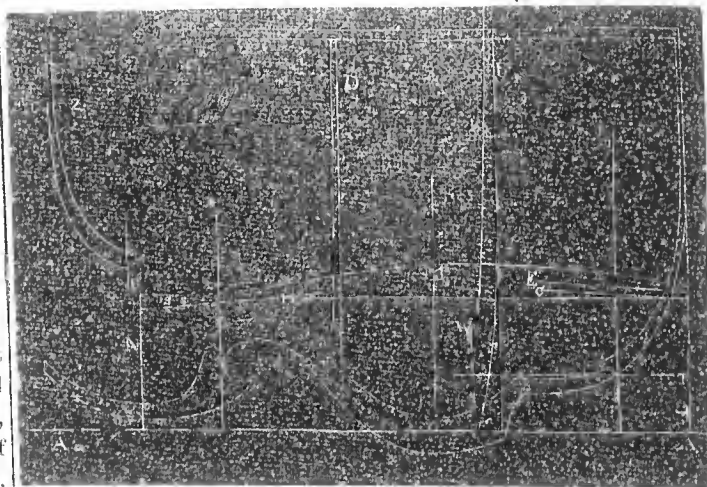
Here let us stop to remark that it matters not what color the carriage part is to be, you will proceed in the same manner as above described, except in the last coats of the lead filling. If the color you intend to use is of a light shade, omit the lamp black in the filling, and in place of it add some of the same color you intend to use, in order to make the foundation of the painting as near the color of the surface as possible.

When the carriage part is thus far done, if of a light color, and requires striping or lining, now is the proper time to execute this part of the work. In this particular we may differ with some painters, as many of them are in the habit of laying their striping or lining on the coat of color and varnish. We object to this rule, first, because the surface is not sufficiently smooth to make an even and correct line, as some places are tolerably smooth, and others are not. Consequently it is difficult to draw a smooth and correct line. Again, we would object to this plan, upon the ground that there is no proper foundation for the lining or ornamenting. Every painter we think must admit that a line will show more distinctly when it is drawn upon a surface of varnish than otherwise could be expected, for when it is complete the lining lays between two bodies of varnish, and hence must show to a much better advantage than though it were drawn upon a dead color and but one coat of varnish or more on the outside surface. We now come back to our carriage part again, and remark that when this first coat of clear varnish has become dry and hard, take a small hand full of curled hair, and with this rub the work over, which you will find to make the surface quite smooth. This done, if any lining is to go upon the work, you will now apply it, and after this has become dry, you will finish with one heavy, flowing coat of clear coach varnish. Sometimes, however, when the carriage is to be something extra fine, this coat is again cut down, and finished by applying the third coat.

F. J. FLOWERS.—Our worthy contributor, Mr. Flowers, has been on an eastern tour, in consequence of which he was unable to furnish his contribution No. 5 for this No., but will be on hand as usual in our next.

[Continued from Page 71.]
THE FRENCH RULE.

EXAMPLE 7.



In our last we endeavored to make our readers comprehend the principal by which to be governed in locating the inside of bottom side, or line II on the draft board. Hoping we have succeeded to their satisfaction, we will proceed one step further in our laborious study, and point out the location of the inside of front bottom side as represented by line S S in the above example, and also the manner of obtaining the bevel of the back corner pillars, &c.; and first the beveling of the corner pillars.

In making the pattern for the back corner pillar, care should be exercised in getting the extreme end at foot cut off on a perpendicular line from base line A A, and after facing the pieces (out of which the pillars are to be dressed,) and having set your bevel to harmonize with lines C and J you will taper the back side of the pillar a few inches at the top, so as to fit the bevel from the face side; then apply the pattern to the face side (which you will understand is the inside of the pillar in this case) so as to come flush with the edge you have just tapered or beveled off, and pass around it with your scratch awl, and before moving the pattern cause a mark to be made across the edge of the same, and also the pillar at top and bottom, the object of which you will see presently. Having marked the pattern on the face side as directed, you will draw a square line across the pillar at A in fig. 2 on draft board, after which mark your pillar at foot on the reverse bevel; that is to say the bevel across at line A fig. 2 is the reverse as line B fig. 2, so that in looking endways on the pillar it would appear like fig. 3. Having taken off the wood at B according to the reverse bevel, and a square mark drawn across the end of the pillar at C, you will then place the pattern on the opposite side of pillar, so as to touch on the square lines drawn across the pillar at A and B, fig. 2, and at the same time causing the mark made on pattern at A (before mentioned) to touch the one made on the pillar at the same location, and pass around the pattern with your

awl as before. Thus you will perceive you have got your pillar marked on both sides, and that after you have dressed it up to the lines you will further perceive that by applying a horizontal

square to the bevel of the pillar across the back is strictly correct from the top to the bottom. The object to be attained by pursuing this course in beveling such parts is to obviate the use of the horizontal square, which is a very tedious implement to work from, and also to gain time and a greater degree of perfection in the execution. But there is still another important task attending the construction of the pillar under

consideration, and that is, the beveling of the outside so as to harmonize with the general sweep of the body, which you will proceed to accomplish in the following manner: First ascertain the distance from line E to C where they are intersected by line P P (say $1\frac{1}{2}$ inches,) next the distance between lines E and C on line J (say $1\frac{1}{2}$ inch,) which latter you will mark on the pillar at the top. Thus there would be $\frac{1}{4}$ in. difference between the size of pillar at bottom shoulder and at top; hence there is little round on the outside of the pillar to be worked off in that $\frac{1}{4}$ in. taper. But to get it correctly you had better draw a perpendicular line to that point where belt rail connects with corner pillar on the outside, and take the distance between C and M and mark it on the pillar at the belt rail. You will then set your bevel on line J and M, and apply it to the back of pillar and work the outside to it and also the points marked off at top of belt rail and bottom of shoulder. The pillar thus dressed up, when correctly framed into the body, will be found perfectly true with the body both ways; owing also to the pillar being framed on a different line from the bottom side on line II, thus causing it to throw round. The shoulder at the bottom of the pillar will not be square; however when pillars are shaped at the lower extremity as shown at B in fig. 2, and you apply your square to the shoulder on the inside, it will be found correct.

Let us now pass to speak of the front bottom side, referred to in the commencement of this chapter, its location, bevel, &c., and first how to locate the line S S, (inside of front bottom side.) We will suppose those pieces are gotten out of 3 inch plank allowing $\frac{1}{4}$ for dressing up. Then mark $2\frac{3}{4}$ on line N from line M, and the same distance on line D from line M, and draw line S S, which as before stated, is the inside of front bottom side. Having faced up your pieces for those parts apply the pattern and mark in same manner as directed for corner pillar, also marking the pattern and rocker piece as before mentioned.

The body being contracted at line O it becomes necessary to bevel the bottom sides accordingly, which bevel is obtained by ranging the bevel square with lines O and S S, from which you will proceed to bevel the same by marking across the timber, and applying the pattern to the opposite side, as shown in directions of back corner pillar, and marking from the lines of both sides, which will give the proper bevel across the body, so that after it is put together, a straight edge when applied across the body will rest equally on both edges from one end to the other.

[To be continued.]

For Saladee's Magazine.

WIDE AND NARROW TIRES.

MR. EDITOR:—I perceive occasionally that some of your readers take the liberty to ask your opinion in regard to the mechanical advantages and disadvantages attending the many different modes of constructing the various points which constitute the carriage, and also that you have had the kindness to comply with such request, and answered their respective inquiries with apparent clearness, and ability. Now, sir, if I am not imposing upon your time and good nature, I would ask your opinion in regard to the mechanical operations of wheels with a wide and narrow tire. Is there any difference between the two so far as the forward motion of the vehicle is concerned, and if so, which do you consider the best adapted for carriages generally, a reasonably wide tire, or one made as narrow as a due attention to the strength of the wheel will permit. Your answer will most certainly interest if not instruct many of your readers and subscribers, of which it is my happy lot to be one.

P. M. G.

The above has been considered by the mass of individuals a subject of great importance so far only as relates to the preservation of the roads, in view of which high tolls have been imposed upon wagons with narrow tires; and as the width of the tire was increased, so was these tolls diminished in proportion. This system of turnpike government is prevalent at the present day in many parts of Europe, and hence the inquiry has risen among many carriage and wagon makers as proposed by our correspondent.

The system just referred to is no doubt a very salutary regulation as applying to wagons, for considering the immense weight these machines carry, and being according to an ancient regulation of a certain width on the ground, they would be found to inflict much injury on the roads, particularly as one wagon follows in the track of another. It is unnecessary to say more on wagon wheels at this time, as the same argument does not apply to them as to carriage wheels. The weight of the latter being so trifling in comparison with that carried on the former, renders the width of the tires a matter of little consequence to the roads; hence no one can object to making them as narrow as a due attention to the strength of the wheel will allow. We are told by Ferguson that the width of the tires does not in the least effect the forward motion of the vehicle to which they are applied, and in

support of this we are referred to the following experiment.

Let one end of a piece of pack thread or twine be fastened to a brick and the other end to the hook on a spring scale; now lay the brick on the edge (upon a table or some other smooth surface,) and then by a steady pull ascertain the weight it requires to draw the brick forward; then take the brick back to the former place and let it lay flat on the table and act upon it as before, and the result will be to show that the same weight will draw the same brick in the different positions described. In the former case the brick is to be considered as a narrow tire on the ground and in the latter as a broad one. And, therefore, as the brick is drawn along with equal ease whether on the edge or side, it is concluded by many that a broad wheel might be drawn along on the ground with the same force as a narrow one.

However well the above may appear in theory, the experiment is too rude to produce any satisfactory results. The friction of the brick is too near its weight for the effect to bear comparison with the diminished friction of the wheel and axle added to which the wheels roll over the ground instead of rubbing like the brick on the table. Now rubbing and rolling may be considered as two distinct species of friction (of which we will speak hereafter;) by careful study you will observe that by the pressure of a tire on a soft road, the air being expelled, a very sensible attraction from cohesion takes place, and although at first thought this may appear as a trifling circumstance, it will be found however to operate materially on the increase of draft. For those reasons when the lightness of draft is the primary object, the tire of carriage wheels should be made as narrow as may be consistent with the strength required from the wheel.

BACK NO.'S AGAIN, AND THE ILL-MANAGEMENT OF THE MAILS.

We find of late there are hundreds of our subscribers who do not receive the Magazine regularly, and many of them never receive some of their numbers at all. Now we can assure our readers that the Magazine is mailed *correctly* to their address and *regularly* on the first day of every month. If, therefore, they fail to come to hand regular, and some of them get lost entirely, it is not our fault, but must rest upon the ill-management of the mails. Those who commenced with the Jan. No. and find some of the numbers to be lost write us for the missing ones, stating they are willing to pay any reasonable price if we will but forward them. Nothing would give us greater pleasure than to comply with their friendly request, (free of charge) if it were in our power, as we have *distinctly* stated before, that we had not one back No. to our name, (except our file) and therefore could not furnish them at present, but at the expiration of the year all the missing No.'s shall be forthcoming.

A PACKAGE BY EXPRESS.

We were much delighted a few mornings since on receiving a large package from New York, which contained a most superb silver mounted saddle, made over Selleck's Improved Tree, (illustrated in the March No. of the Mag.,) sent as a present to the editor by Mr. Rob't M. Selleck, 252 Pearl St., New York city. It is a splendid affair, and the multiplicity of work thereon is executed in a manner that proves the ability and ingenuity of Mr. S. to be second to no mechanic in the Union.

We are proud of this valuable present, and especially so when we consider the friendly and gentlemanly source from whence it came. It is most too fine to be used, but notwithstanding we shall soon see how it fits the pony.

We should think our Saddlery Hardware and Coach Trimming merchants would find it to their advantage to keep on hand a supply of these Trees for Harness, &c., for coach-makers who manufacture their own harness will not be without them when once they are introduced, and saddlers generally will use them in preference to any other. See advertisement in this No.

COLBURN'S IMPROVED ODOMETER FOR CARRIAGES.

The object of this improvement consists in applying a neat and simply constructed instrument (about 3½ inches in diameter and 1 inch thick to the back extremity of the hub, which is so operated upon by the revolution of the wheels, as to show from time to time the distance the carriage has run, by means of a dial—upon which is inscribed the figures of *rods, furlongs* and *miles*.

We have seen several odometers of ancient construction, but their complicated and unsightly appearance would at once offend the eye of any mechanical observer, and especially so if applied to the light carriages of modern origin. This, however, presents entirely a different appearance, being neat and simple in construction.

When this apparatus is practically introduced, every livery stable proprietor can have access to a tell-tale by which he may always know how far the hired carriage has run, or the horse has been compelled to draw it.

It shall be illustrated in our next No.

THE OHIO STATE FAIR.

Our Buckeye brethren can have the pleasure of exhibiting their productions to a multitude of the good people of Ohio at the sixth annual State Fair, which is to be held in Columbus on the 18th, 19th, 20th and 21st of September next. We hope the carriage department will be more fully represented than it was last year. The following is the awarding Committee on Carriages: Geo. C. Miller, of Cincinnati; Wm. Shultz, of Zanesville; Col. Jas. Gardner, of Cleveland; D. Jemminson, Marion; John Burr, Columbus.

THE HONORABLE GEO. GILBERT OF
CIRCLEVILLE, OHIO.

In the June No. of the Magazine we innocently slandered the character of the gentleman whose honorable name graces the head of this article, by stating in the face of over twelve thousand respectable coach-makers, that he was a gentleman, and by still further conveying the idea that the craft might expect to be honorably dealt with by him in all his business transactions. Now, brethren, be not deceived, but read carefully the following facts, and look out for this notorious GENTLEMAN (?).

We copy the following item from a business letter received from Mr. Ed. Everett, of Quincy, Illinois, (one of the patentees of the Everett coupling.) We have now the documents before us from the Sheriff's office in Circleville, which show Mr. E.'s statement to be correct, viz: that he has made over all the property in his possession to Mr. Wm. Bander (his brother-in-law) down even to the very carpets on his parlor floor, and his piano to the firm of Colburn & Fields, of Cincinnati, Ohio.

"As respects Mr. Gilbert, I am sorry to say you are in error in supposing him to have paid a fair price for the improvement, (though my assignment to him is just as good as if he had) I took his notes in payment for the right to the north western States, all of which, with the exception of the first, remain unpaid, and though judgment has been obtained on them, the law has as yet proved insufficient in enforcing payment, owing to his having placed all his property in the hands of his friends to avoid payment."

Thus it is that some of our most worthy inventors are left penniless, by coming in contact with such gentlemen as the above. But we mean to make it a business (as soon as we can detect these sheep-clad wolves roving through the fields of our fraternity,) to seize upon them with all the power we possess, and raise the alarm among the flocks. Our craft has suffered enough from such sources, and we are determined to expose them as fast as we are advised of their whereabouts.

Mr. Geo. Gilbert honored our sanctum in March last with his presence, on which occasion he stated in the presence of four gentlemen, that he had cleared \$60,000 within the last year in the sale of the Everett Coupling, and yet while reaping this golden harvest he has the honor of declining to pay the inventor the simple sum of \$1,800. This act alone entitles the subject of this narration to the Hon. we have annexed to his name at the head of this chapter.

But perhaps the following honorable mode of selling and disposing of the Everett Coupling has been the means by which he effected the great success he boasts of. The letter here given is from Messrs. H. Simonton & Bro., of Lebanon, Warren Co., Ohio, and who we know to be men of respectability in their profession, as coach-makers, and whose word can be confidently relied upon. But read Mr. Gilbert's transactions

with them and again we say to the craft south and west, *read and be wise.*

For Saladee's Magazine.

LEBANON, Ohio, July 14, 1855.

MR. SALADEE—*Dear Sir*:—On the 8th day of July, 1854, we bought of Geo. Gilbert the rights of Everett's Patent Carriage Coupling for the counties of Warren and Clermont, excepting one shop right in Milford, Clermont county, and the township of Mossie and one shop right in Buttesville, Warren county; and three days after he gave us our deed he sold three shop rights in Clermont county, amounting to sixty dollars, without any authority from us whatever, and when we found it out we went up to Circleville for the purpose of arresting him but did not find him at home at that time and returned without seeing him. In a few days afterwards we received a letter from him stating what he had done, and that he had done it all for our benefit, and had no bad intentions in so doing, and that he intended to pay us the money as soon as he had an opportunity of seeing us, that he was sorry we had put ourselves to so much trouble about it, that he had written a letter and left with his son before he started east, to send to us, stating what he had done, and his son had mislaid it, &c. (Mr. Gilbert then had a note on us drawn four months after date.) He was sorry he had not the money to pay us then, as he had just returned from the east and had payed out all he had on hand, but that he would be in Cincinnati in a few days, and would call and pay us without fail. He begged off with us so much that we finally proposed to let him off so far as we were concerned in the right, by delivering to us the seventy-five dollar note he held on us, and he kept the sixty dollars he had taken for the three rights he sold in our territory, and we would make the rights good to the men the first opportunity we had of seeing them, and that we would write to them forthwith, which we did, informing them to that effect; (this was allowing us fifteen dollars for our trouble, &c., as you see.) Gilbert agreed to this, but upon hunting for the note couldn't find it, and said he recollected of sending it to a banker in Cincinnati to have it presented to the bank where it was payable when due. We asked him if he had not discounted the note to that bank where he sent it; he declared he had not, and then proposed to give us a receipt against the note, and in a few days when he went to Cincinnati he would send us the note by mail. This we very foolishly agreed to and returned home hoping he might do as he promised, but the note never came and we became uneasy, fearing he had sold it, (which we afterwards found true.) We left the receipt at the bank where the note was made payable, informing them of the particulars and in case the note was presented by any person for payment, to show them the receipt, &c. When the note came due it was presented and endorsed on the back by Geo. Gilbert, and some other man in Circleville. The receipt was shown, but they, (the bankers who presented the note for payment,) said they cared nothing about the receipt, but would go and protest the note. The receipt was then given them requesting them to stick it on the face of the note before protesting it, to show that it had once been paid. The note was protested and paid by some person we know not who. In a few weeks afterwards Geo. Gilbert left the note with two lawyers in Dayton, with instructions to collect it forthwith according to law, that it was no use to see us about it, but to commence suit. The receipt was not with the note and could not be found. Suit was commenced in this place and we filed an answer and

gave notice to Gilbert's Attorneys, that we would take depositions in Cincinnati, &c. Gilbert's Attorneys then wrote to the justice here in Lebanon for the note to be returned and suit withdrawn at Gilbert's cost, which we found out in time to replevin the note into different justice's hands, who set another day for trial, but Gilbert did not appear in person nor his Attorneys for him, and so after being put to a great deal of trouble as you must have concluded by this time, we got clear of paying the note twice.

Yours, respectfully,

H. SIMONTON & BRO.

P. S.—We hope you will expose all such characters.

H. S. & Co.

To be continued in our next No.

A LETTER FROM QUEBEC, C. E.

QUEBEC, July 11, 1855.

TO THE EDITOR OF THE COACH-MAKERS' MAGAZINE—*Respected Sir*:—In the May No. of the Magazine was found a small notice which met our approbation to the utmost, viz: that in the latter part of that month the editor would visit his friends in Quebec, Montreal, and Toronto. Your friends of the former city, (which is the craft universally,) were expecting to a certainty to receive you at the time promised. May has gone; June has also passed slowly away, and still we have not had the pleasure of taking by the hand the enterprising editor of that journal which is the pride of the coach-makers of this country as well as of those in the States. The July No. of the Mag. has just come to hand, and by that we see that in place of the Editor paying us a visit he will send as a substitute his general agent, Mr. Terrill. Now, we shall be happy to see Mr. Terrill or any other gentleman who has anything to do with the Magazine, and will do all we can to speed his business while among us. But certainly we cannot abandon the idea of seeing the editor himself here in the old city of Quebec, and especially so since he has given us his word to come among us. But as the time is far past in which you was to make your very welcome appearance here, and now seeing by the July No. that some one else is to visit Canada, we most respectfully ask for an explanation. Have you already visited Canada, and as you sojourned, overlooked the little village of Quebec, or have you been detained from unavoidable circumstances, and still mean to fulfil your promise to us?

Any agent you may see proper to send here on business pertaining to the Magazine, will be kindly received, we can assure you, but at the same time the editor must not forget the promise in the May No. to his Canadian readers as we most certainly expect to see him.

Yours in the Craft,

DE ARMITT, STRONG, and others.

It is true we promised to visit Canada in the latter part of May, but unexpected business in the eastern country called us away at the time we were making all preparations for our visit to Quebec, Montreal, and Toronto, and since our return from that tour our cares have multiplied to such an extent that it is a matter impossible to leave our sanctum more than three or four days in each month. This being the present state of affairs, our worthy friends in Quebec must not murmur or complain if they should not see us the present year; still if it is among the things possible, we mean to see old Quebec some time in October. However should we fail to do so, our

friends will attribute the cause to the multiplicity of business that will be crowding upon us.

Mr. Abra'm Terrill will in all probability visit Canada this fall, and any favor our friends may extend to him, will be duly appreciated by the editor. Mr. T. is a practical and intelligent coach-maker.

To our friends in Quebec we return the most sincere thanks for the friendship expressed in the foregoing letter, and for the active interest they have taken in behalf of our journal.

NOTICE.

In order to prevent any future repetition of such trickery as is set forth in Messrs. Simonton & Bro.'s communication in this No., we would advise all those who have purchased the right of the Everett Patent Coupling from Geo. Gilbert, of Circleville, Ohio, to send us their names immediately, stating the territory they claim, and all other facts pertaining thereto, which they may see proper to give, and we will publish the same forthwith.

HAYDEN & LETCHWORTH.—Mr. Hayden, as we have before informed our readers, is one of the most extensive dealers in Saddlery Hardware and Coach Trimmings in the United States. It will be seen by referring to our advertising department that he has establishments of this denomination in New York, Auburn, Syracuse, Columbus, Cincinnati and St. Louis.

The firm of Hayden & Letchworth have one house in Auburn and one in Syracuse, N. Y., where the craft will find a full and well assorted stock of every thing pertaining to the trade.

NOTICE.

Subscribers who are changing their place of residence and ordering the Magazine sent to a different Post-office, must be particular in stating to what place it is being sent at the time they order it mailed to a different office. We have now quite a number of letters of this character before us, and owing to a neglect of the above request, they pass unnoticed.

Persons sending communications to this office that require an answer by mail, must enclose a stamp to pay return postage. The motto is now, "pay your own postage." One stamp (3 cts) is a small affair, it is true, but if we are called upon to pay it on all letters which come to hand asking for a reply, it would foot up a large sum at the expiration of the year. A hint to the wise, &c.

NOTICE.

Our Southern and Western patrons will please take notice, that the agency of Geo. Gilbert in the Coach-makers' Magazine was discontinued on the 19th of July, 1855, also that of his son. All subscriptions by them received up to that date are valid, but none thereafter.

HUB AND AXLE FASTENING.—John Henderson, of Horsehead's, N. Y.: I claim the peculiar form of the frustum box fastening, operating in the manner and for the purpose described.

CONTRIBUTORS TO THIS NUMBER.

S. W. DENNING, of Pa.
P. M. GOLDEN, of Maine.
D'ARMITT & STRONG, C. E.
J. R. GATES, of Ohio.
H. SIMONTON & CO., of Ohio.
ABRA'M TERRILL, of N. J.
A. POWERS & CO., of Maine.

ANSWER TO CORRESPONDENTS.

B. B. A., of N. Y.—Your design of a three perch gearing is not (as you suppose) a new thing, and if it were we do not see that it possesses the advantages over the single perch with iron stays you claim for it. We have constructed light carriages on the same plan of your drawing some three years ago, and Mr. Watson of Philadelphia has done the same thing. But aside from this there is no point about it patentable.

S. D., of N. Y.—From the description you give of your Bow Setter we think it is exactly the same as that of S. B. and C. Hayes of Washington, and Ed. Hayes of Wheeling, Va., for which they obtained a patent some weeks ago. We should be pleased to see at daguerreotype or a drawing of your machine.

G. W. D. & Co., of Ga.—Your package of drawings are received, and for which you have our thanks. The light Rockaway is a beautiful design, and shall be represented in the Magazine in due season. Your Sulky is not quite up to the times, as you will see in this No.

L. S. S., of Ohio.—The style of your Buggy would no doubt be one that would meet the approbation of the craft generally, if its proportions were correctly drawn; but as it now is, its appearance is too complicated and clumsy.

P. R. P. of Mass.—A great many attempts have been made within the last twelve years to construct a wheel that should surpass those now in common use in point of strength, lightness and beauty, but so far as we have the means of knowing, every effort has thus far proved a failure. A circular spring wheel similar to the one you propose, is illustrated in the Feb. No. of the Magazine, and the objections we there offer to its general use are applicable to yours also.

D. M., of S. C.—There is no Spring or Axle Factory in Cincinnati. Mr. Sam'l Coleman is engaged in the manufacturing of carriage bolts, as you might see by his ad't in the Magazine. We do not think that Mr. C. was ever engaged in Spring and axle manufacturing.

T. N. & Co., of N. Y.—We have never saw the patent instrument for oiling carriage axles without removing the wheel, which you refer to in your list. We will illustrate it as soon as we receive the drawings from the patentee. From the description we have seen of it, we are inclined to believe that it will prove a valuable implement, and will receive from the hands of the carriage using public a liberal patronage.

A. B. L., of Mass.—Your plan for bending the butt end of shafts is nothing new. We think Messrs. Royer, Simonton & Co., of Cincinnati, Ohio, have the same kind of brake, and have been using the same for some years.

Miss V. W., of Pa.—Your article is just read. We are well pleased with it, and if possible it shall appear in our next.

P. M. D., of Me.—From the description you give of the construction of your spoke knife, we should think it would work admirably. If you will send us a correct drawing, we shall be happy to illustrate it in the Magazine.

S. S. S., of Pa.—The drawing you sent is so imperfectly executed, as to render an examination of the principles of your shaft fastening utterly impossible. We think, however, that something of the same kind is already patented.

G. S. M., of N. J.—We are sorry the drawings you had sent us are not more correct; if they were correctly and smoothly made it would save us much unnecessary trouble. However, your improved panel knife we will have redrawn and engraved for our next No.

P. P. A., of N. Y.—Your drawing of Crane-neck Rockaway shall appear in due season. It is a nice design and well drawn.

A. S. B., of N. J.—Your articles mailed on the 12th for publication, are laying subject to your order.

S. B. L., of Pa.—Your draft for drop front Buggy is old. We made bodies similar to it thirteen years ago, while an apprentice.

T. H. S. & Co., of Ill.—The combined Spring and Coupling of Sprout, Burrows & Co. as illustrated in this No. will undoubtedly meet your approbation. The best elliptic spring of which we have any knowledge are those manufactured by Wm. Wright & Co., of Newark, N. J., E. Haydock, Rahway, N. J., and those manufactured by the Spring Perch Company of Bridgeport, Conn. Can't say whether either of those manufactories have an agent in Cincinnati or not. Our thanks for your compliment.

G. L. H., of Conn.—The French and German drawings you sent us are of no account in the Magazine. Shall we return them?

The Coach Factory of the Messrs. Cooks of New Haven, Conn., will be illustrated in our next No.

LITERARY NOTICES.

GRAHAM'S MAGAZINE for July; Published at Philadelphia. Terms \$3.00 per annum.

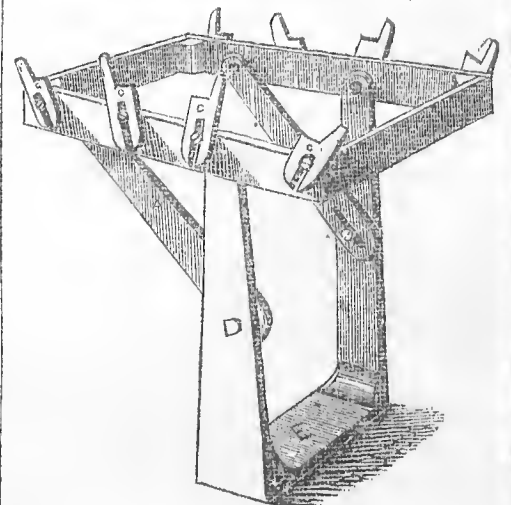
This popular and beautifully illustrated Magazine is second to none in America. Each No. contains two magnificent steel plate engravings, one of which is highly colored, representing the latest and most approved fashions of Ladies' wearing apparel, and it always comes to us filled with the choicest selection of original articles, poetry, &c. For a fine literary entertainment this is the Magazine.

FRANK LESLIE'S N. Y. JOURNAL FOR JULY.—This excellent Journal, devoted to Romance, general Literature, Science and Art, is published by Frank Leslie, N. Y., at \$2.00 per annum. Each No. contains 64 large pages and is beautifully illustrated with large and well executed engravings; it is a valuable and highly interesting Journal.

THE UNITED STATES MAGAZINE FOR JULY comes to hand brim full of interesting articles devoted to Science, Art, Manufactures, Agriculture, Commerce and Trade. This large and elegantly illustrated Magazine is published by J. M. Emerson & Co., N. Y. City, at the ridiculous low price of \$1.00 per annum. No one should be without a monthly Magazine when he can obtain it at this low figure. The same gentleman publish the United States Journal, the largest and most interesting monthly paper in the Union, at the little sum of twenty-five cents a year. The illustrations in a single No. are alone worth the quarter.

For Salee's Magazine.

BOW SETTER.



MR. EDITOR:—Knowing something about the difficulties that many of your subscribers contend with in setting bows, I have been led to send you a model of a machine or frame I have been using for some time for this purpose, which I think is the best I have ever seen. With it one person without any assistance can set the bows for a calash top in a very short time. It is original with myself, and if you think it will be of any benefit to the craft, I cheerfully submit it to their use through the columns of your very valuable Magazine.

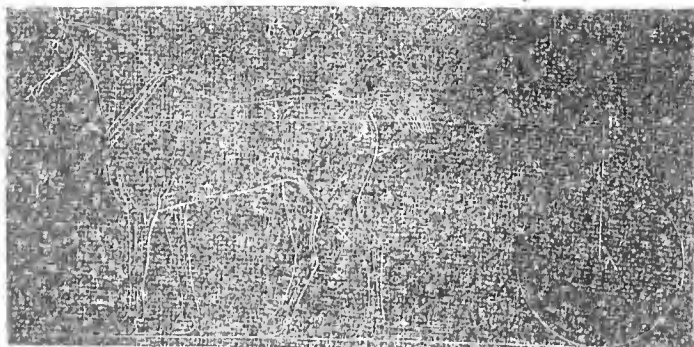
It is a very cheap concern; with a dozen small carriage bolts, and a dime's worth of half inch poplar, a man can make it in a few hours. The following is a description of it: E is a frame or plank base, fastened to the seat by a wood band screw, or a weight laid thereon. This frame is located so that the top frame B extends back over the back of the seat 2 inches, or as far as desired. When the body is set in its proper position, the frame B is made level by the movable braces A A. The length of the top is regulated by the guides C being moved back or forward on the frame B. The height of your top is regulated by the guides C being moved up or down as desired. The swell of the top is regulated by raising or lowering the centre guide or blocks. The projec-

tions for the guide blocks E are for the purpose of steadying the top of the bow and holding the bows all out of twist. When they are being set and the bracing or stays fastened to them, the blocks C are turned into a horizontal position, the frame E loosened from the seat, and the whole concern slipped out from under the bows. In regard to bracing the bows, every trimmer has his peculiar method. I might state that the way we do it is as follows: Just below the bend of the bows we screw on a strip of half inch poplar about two inches wide, with a wood screw into each bow. Then a strip on each side in like manner from one of the middle bows down to the front of the rocker, where it is made fast on the inside by a small nail or screw. Next a light strip from the top of this front brace to the opposite side where it is fastened to the seat (on the inside.) When the inside linings are all in we screw a strip on the inside of the bows under the festoons (or sun curtains) which will cover any mark of the screw holes in the covering of the bows, then take off the outside braces.

I may remark that for the purpose of bracing this machine from inclining from either one side or the other, two small strips are applied to the perpendicular supporters on the inside, and so attached as to cross each other, which will make it entirely permanent. Extension tops can also be set with this machine, by making a pair of side top pieces for the purpose, which can be applied by removing those used for the ordinary calash, as now illustrated in the engraving.

J. R. G.

(Continued from Page 72.)

For the Coach-Makers' Magazine.
HIGH AND LOW WHEELS.

In concluding my last article on the subject which makes the heading of this, I remarked that my observations had been confined to the operations of wheels in general, and promised in the present communication to offer some remarks on the means employed to draw them. In accordance with this promise I will now proceed by stating that the horse is every where and in every country used for the purpose of draft, however all four legged animals are calculated for horizontal draft, consequently mules, oxen, sheep, dogs and the like, are employed in the different parts of the world for the like purpose. In all animals, however, the capacity for drawing depends entirely upon their weight as well as their absolute strength. Thus it happens that a very heavy horse will draw a load which a lighter (though a stronger one) would not move, but if something was thrown on the latter so as to render his weight equal to that of the former he could draw the same load and with about the same ease. It is also stated that the carriage to be moved reacts upon the horse and pulls him back as much as he draws it forward, unless the exertions of the muscles of the animal resisted by the solid ground, overcomes the resistance of the

load upon the moveable wheels, it then goes forward in proportion to the increase of one power over the other.

A line parallel to the plane upon which the carriage is to be moved is doubtless the best adapted for the application of the power for draft, but there are circumstances connected with the construction of carriages now in use, which prevent the employment of such horizontal line with advantage. And as style and fashion predominate over mechanical principals in the arrangement of carriages, therefore we find that in conforming to such imperative laws, the height of front wheels must not exceed (or vary from) three feet six inches.

By referring to the above figure it will be observed that the axle of a wheel of that height will be at A, whilst a line horizontally drawn from the horse's collar would communicate with the carriage at B and as the axle A would encounter the shock of all resistance to motion, it will be seen that power thus applied would act injuriously upon that part of the carriage occupying the space between A and B as it is evident that the axle A would be driven backward by the constant application of the power being so much above the point of resistance.

In order to obviate such consequences, I consider it wisdom to adapt a line of draft inclined from the horse's shoulders to the axle A as represented by the dotted line. Such depressed line, if not carried beyond a certain degree, does not operate with the least sensible disadvantage to the horse, as from a slight view of the anatomical of this noble animal it will be perceived that the collar from which he draws inclines backwards, and appears to fall into this position from the form of the shoulder. Now if he drew in a horizontal line to B it is evident that the pressure

would be on the lower part of the collar, against which are opposed those muscular parts of the shoulders that are most in action, together with his windpipe, the effects of which would be to check his respiration, or to chafe those muscular parts.

Now, a depressed line of draft approaching nearer to right angles from the collar, will cause a more equal pressure, and thereby relieve the horse from those ruinous consequences.

I therefore conclude that the trifling disadvantages arising from the deviation from a horizontal line of draft is more than compensated by the relax afforded to the horse.

S. W. D.

ARKWRIGHT AND WATT.

MACHINERY AND THE STEAM ENGINE.

A correspondent of the London Art Journal, R. Hunt, in the No. for June, 1855, gives the following in regard to the youth and humble origin of two of the most remarkable the world has ever known, whose discoveries in mechanics and machinery have revolutionized the globe on which we live. Their names were Richard Arkwright and James Watt. The writer says:

Richard Arkwright was the youngest son of thirteen children. His parents were poor and the boy was brought up to be a barber. On this, one of his biographers remarks truly, that it was "an occupation which could afford but little promise of distinction; and it is probable that, had he continued to follow that business, the powers of mind which he exhibited, and to which his great success in life must be attributed, would have lain dormant, or might have been stifled by the petty cares attendant upon a low and precarious

profession." Eventually, Arkwright quitted his trade as a barber, and became a dealer in hair. He appears to have devised new methods for dressing the hair, and for dyeing it, after which he sold it to the wig makers.

Perpetual motion was at this time exciting the attention of ingenious minds; and in the attempt to solve this problem, many ingenious devices were made. As at the present time, the application of electricity as a motive power engages the attention of many, who, regardless of the laws by which this force is regulated, attempt to apply it by various ingenious methods, all doomed to end in failure, so the dreams of establishing an unvarying and undecaying motion exhausted the powers of some of the choicest spirits of the last century.

Arkwright devoted considerable attention to machines for maintaining perpetual motion. In this, of course, he, like every other schemer, failed; but it led him to endeavor to meet the want of the time—the construction of machines for spinning cotton. The success of his attempts is well known. The magnificent mills of Manchester and other places in the midland counties, attest the comprehensive character and the indomitable energy of the barber of Preston, who conquered every difficulty, placed himself at the head of the cotton trade of England, became high sheriff of Derbyshire, and was knighted by his king.

James Watt was so poorly placed in his early days, that we find him, as he himself tells us, "lodging under the roof of his master, but not receiving from him any of his board. The cost of his food in all was but eight shillings a week, and lower than this he cannot reduce it without pinching his belly." At this time Watt appears to have been severely worked, for he tells us he "was thankful enough to get to bed with his body wearied and his hand shaking from ten hours hard work."

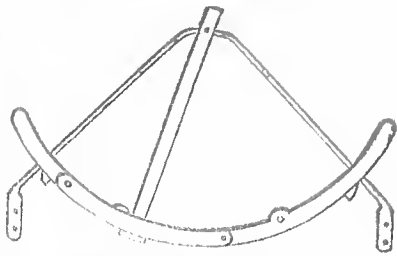
As a boy, we learn that Watt speculated, in the presence of his aunt, Miss Muirhead, on the phenomenon of the condensation of steam in a separate condenser. Thus early appears to have generated the idea, by the full development of which, in after years, Watt effected the revolution of the world. Here were two of our greatest inventors struggling long, in the full consciousness of their own powers,—rejected by their brethren, and treated as visionary schemers, but struggling still, we discover them eventually winning the highest honors, and receiving the homage of a world.

While collecting, washing, cleaning and dyeing hair, one man was brooding over embryo thoughts which, when eventually developed, gave to his country the means of manufacturing for the world. While in the recesses of a workshop, within the precincts of the University of Glasgow, another was filing brass and turning iron, his thoughts were quickening into life, and giving gradually form and fashion to a vast machine which was to advance civilization with a tenfold speed, and to carry Christianity and all its ameliorating influences from continent to continent, and to the remotest islands of the seas.

TO CONTRIBUTORS.

We have a number of articles and a few beautiful drawings, which were sent for the Aug. No. some of which came to hand for the July No., but owing to this Everett Coupling contention, and a tribute we were owing the Hon. Geo. Gilbert, also the desire to represent in the present No. our extension Phæton, Sprout's Springs, &c., they were crowded out, but shall appear in our next.

EVERETT'S COUPLING AGAIN.



For the purpose of avoiding a long and useless controversy between the parties contending for the legal right of the above coupling, to establish that truth eagerly sought after by the craft, and at the same time render that justice to both parties which the case demands, we have thought it proper to procure the letters patent of each party and give them in full, together with all the necessary engravings by which to illustrate their respective inventions.

We accordingly applied and obtained from the Patent Office, full copies, with all the drawings of the original letters patent of both Mr. Haussknecht and the Messrs. Everetts, and we shall here present them to our readers, who will be enabled therefrom to see which party is right, or in other words it will assist them in comprehending the different principles upon which each patent claimed is constructed, and consequently lead them to correct conclusions in the matter, and also shield them from all future imposition in the sale of this improvement.

We shall now take the liberty (after much study and investigation) to express our own opinion upon the subject, and in doing this we shall be governed with all respect and friendly feelings toward both parties, but independent of each.

From the light in which this dispute was first presented to us, we felt very much inclined to believe that the Everetts were indeed selling a right which did not in any sense of justice belong to them, and this conviction was somewhat strengthened upon making our hasty visit to the Patent Office, (referred to in our last.) While here we saw only the models of each coupling; upon inspecting them we found that Haussknecht's model was as near as we could discern the identical improvement illustrated in the Feb. No. of the Mag., (as Everetts,) and that Everett's model was the same, with two exceptions, and that was the *socket joint* and *friction roller*. Taking the models as they were, and believing them to be true copies of the original drawings attached to the letters patent, we very naturally concluded that our friend Mr. Haussknecht had some grounds for complaint, and that the investigation would terminate in his favor. But upon the receipt of the annexed documents from the Patent Office, a different picture entirely is presented to our view, and which represents most clearly to our mind the following facts. First, that Edward and Charles Everett are the *original* patentees of the coupling now sold as the Everetts'. Second, that there are two different

improvements patented which are designed to accomplish the same thing, viz: the turning of a vehicle in a short space without the fore wheel interfering with the body while in the act of turning, and third, that the said improvements are constructed upon entirely different principles, and consequently do not interfere with each other.

Mr. H. says the Everetts obtained their patent through fraudulent transactions and the negligence of the Commissioner of Patents. But how?—his paper for application was filed in the office one month previous to Everett's, and that his was overlooked by the examination of the latter, and their patent granted by mistake; and this fact, he further states, the Commissioner has admitted verbally and by writing. This is verily a serious mistake, and we should think that if Mr. H. could produce the document in which the Commissioner makes confession of so gross neglect of his duty, recourse could be had to him for damages. But supposing this to be all as represented, the claims of the two parties most certainly contradicts it. Let us see.

"What we claim as new therein, and desire to secure by letters patent is, the joint on which the fore carriage turns when placed in the rear of the fore axle, in combination with the segment on which the end of the perch rests," &c.

That is Everett's claim, Dec. 17th, 1859.

"I do not claim the separate use of one segment on which the end of the perch rests, neither do I claim two pivots attached to the body, but what I do claim as my invention, and desire to secure by letters patent is, the placing the pivot in the rear of the forward axle, in combination with the two sets of segments or circles," &c. [Haussknecht's claim, Jan. 13, 1852.]

Then it appears that the Everetts claim the joint in the rear of the fore axle in combination with the segment on which the end of the perch rests, and Mr. H. disclaims it when he says I do not claim the separate use of one segment on which the end of the perch rests. Well, now, the coupling sold as the Everetts, and that illustrated in the Feb. No. of the Mag. (which Mr. H. claims to be his,) embraces those very points which he so particularly disclaims in his letters patent, and says: "But what I do claim as my invention, &c., is the placing of the pivot in the rear of the forward axle, in combination with the two sets of segments or circles, &c." Surely the Everetts are not selling a coupling thus constructed, neither can we see those two sets of circles so especially claimed in the illustration referred to in Feb. No. of Mag. The very expression "I do not claim the separate use of one segment," shows conclusively that Mr. H. was referring to that very improvement which he claims in the June No. of the Magazine. If not we are curious to know who but the Everetts have ever patented the use of *one segment* in a carriage coupling, for certainly in this claim he is alluding to the existence of a patent which claims that point, and by consulting Everett's

letters patent it is evident that it was their claim he referred to.

But what about the *socket joint* and *friction roller* in Everett's improvement. We see by referring to the proper source that they (the Everetts) do not claim such roller and joint, neither do they desire to secure it by letters patent. But what they do desire to secure by letters patent is the joint on which the fore carriage turns when placed in the rear of the fore axle in combination with the segment on which the end of the perch rests; therefore they have the right to make this joint a socket or any other kind of joint, so that it is in the rear of the fore axle and in combination with one segment on which the end of the perch rests, which latter may rest on the segment by means of a friction roller or without it.

In view of these facts we are led to the unavoidable conclusion that the illustration at the head of this article does belong rightfully and exclusively to Edward and Charles Everett, and should this coupling be presented to any of our readers purporting to be the improvement or invention of a different person or persons they would avoid all trouble by adopting the plan proposed by Mr. Benson in his letter on page 76.

As before stated, it becomes strikingly apparent from the annexed letters patent, that there are two improvements for turning carriages in a short space without the fore wheel interfering with the body, and that said improvements differ widely from each other; so much so that a patent has been granted for each, which of course could not be the case if both were alike, notwithstanding however the two different parties have been selling the same thing, and thus imposing upon the craft. One of these improvements consists in having a joint on which the fore carriage turns when placed in the rear of the fore axle, in combination with one segment on which the end of the perch rests. This improvement belongs exclusively to Edward and Charles Everett. The other consists in placing a pivot in the rear of the forward axle in combination with two sets of segments or circles. This improvement belongs to Gustavus L. Haussknecht.

It now remains only for the coach-maker to decide which of the two is the most simple in construction, and best adapted to carriages generally, and be governed accordingly in making a purchase of the right. If the former, he must apply to the Messrs. Everetts, their agents or assignees; if the latter he must apply to Mr. G. L. Haussknecht, his agents or assignees, and by so doing we can assure our patrons that they will never be deceived in the matter hereafter.

THE U. S. PATENT OFFICE.

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME, GREETING:

THIS IS TO CERTIFY, That the annexed is a true copy from the records of this office of Letters Patent, issued to Edward Everett and

Charles Everett, Jr., on the seventh day of December, eighteen hundred and fifty.

IN TESTIMONY WHEREOF, I, Charles Mason, Commissioner of Patents, have caused the Seal of the Patent Office to be hereunto affixed this twenty-sixth day of May, in the year of our Lord one thousand eight hundred and fifty-five, and of the Independence of the United States the seventy-ninth. C. MASON.

No. 7835.

THE UNITED STATES OF AMERICA.

To all to whom these Letters Patent shall come :

WHEREAS, Edward Everett and Charles Everett, Jr. of Washington, D. C., have alleged that they have invented a new and useful improvement in carriages; which they state has not been known or used before their application; have made oath that they are citizens of the United States; that they do verily believe that they are the original and first inventors or discoverers of the said improvement, and that the same hath not, to the best of their knowledge and belief, been previously known or used; have paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose.

These are therefore to grant, according to law, to the said Edward Everett and Charles Everett, Jr., their heirs, administrators, or assigns, for the term of fourteen years from the seventeenth day of December, one thousand eight hundred and fifty, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said E. and C. Everett, in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these Letters to be made Patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the City of Washington, this seventeenth day of December, one thousand eight hundred and fifty, and of the Independence of the United States of America the seventy-fifth.

ALEX. H. H. STUART,

Secretary of the Interior.

THOS. EW BANK,

Commissioner of Patents.

Countersigned and sealed with the Seal of the Patent Office.

THE SCHEDULE REFERRED TO IN THESE LETTERS PATENT, AND MAKING PART OF THE SAME.

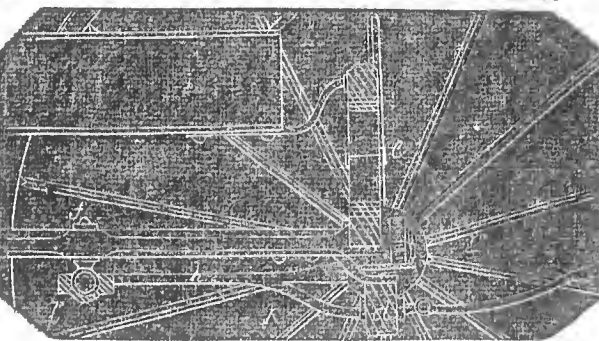
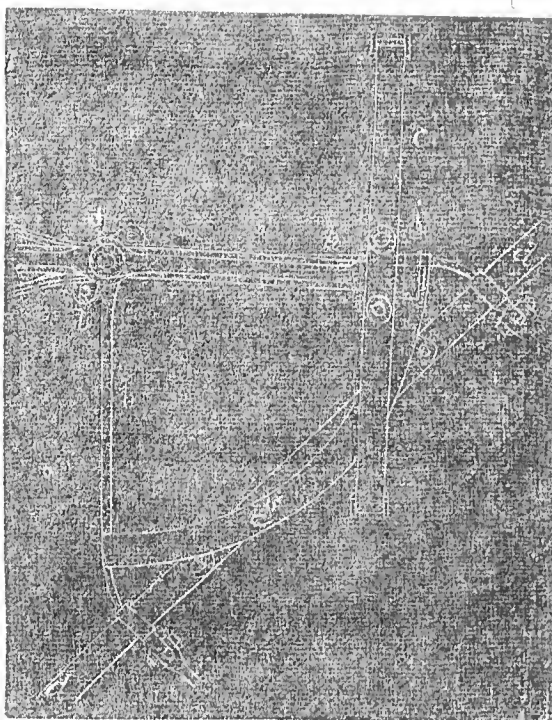
To all to whom these presents shall come :

Be it known, that we, Edward and Charles Everett, of Washington City, in the county of Washington, and District of Columbia, have invented certain improvements in the running gear of carriages, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known, and of the usual manner of making, modifying and using the same, reference being had to the accompanying drawings, of which Fig. 1 is a top plan, and Fig. 2 a vertical section.

The advantages derived from the use of large fore wheels in carriages, in saving friction, and in surmounting obstacles are well known; but

they have not been generally used, owing to the difficulty of turning with vehicles having the fore and hind wheels of nearly equal size. Our improvements are designed to obviate this difficulty by so constructing the running gear, that the carriage can be turned in as small a space as one having wheels which will run under the carriage body.

We have a ball and socket joint at the centre, on which the fore axle turns, in place of the ordinary perch bolt which is so liable to be bent or fractured when one wheel is passing over an obstruction. With the ball and socket joint, the axles can assume any position in relation to each other within reasonable limits, without causing any twisting or straining of either the perch or perch bolt.



The drawings show the running gear of the carriage which is constructed as follows: *d* is the hind axle and *b* is the perch from which the carriage body is supported by the springs; *e d* is the fore axle, having wheels of equal size with those on the hind axle; *e* are the shafts. At the point *f* in the perch *b* is the centre on which the fore axle turns, which is there connected with the perch by a ball and socket joint *l*, the socket being at the centre of a segment *g* to which it is connected by two radiating arms *h*. The segment is firmly attached to the fore axle, and serves to bear up the end of the perch which is furnished with a small friction roller *i* on its extremity, which runs on the upper surface of the segment. By thus placing the centre of motion a short distance in the rear of the fore axle, the fore carriage is made to describe a larger arc in turning, and consequently be turned to a greater angle (without rendering it necessary for

the wheels to run under) than can be done when the centre of motion is through the fore axle itself.

We are aware that carriages have been constructed with the centre of motion at or near midway between the fore and hind wheels, but in such, unless the wheels are of small size or the axles very far assunder, the wheels will interfere with each other, and prevent the carriage from turning short. But by placing the centre of motion intermediate between the middle of the perch and its fore end, as described above, the fore wheels in the act of turning run inside of the hind wheels without touching them. On the under side of the perch at the fore end is a piece *k* which projects downward and forward, so as to run under the inner edge of the segment.

This piece *k* serves a double purpose; first by preventing the perch from being jolted upwards from the fore axle, by its point catching under the edge of the segment *g*, and secondly, by striking the radiating arms *h*. When the fore carriage is turned to its full extent, it limits the motion and prevents the wheels from touching the carriage body.

Having thus fully described our improvements in the running gear of carriages, what we claim as new therein, and desire to secure by Letters Patent is, the joint on which the fore carriage turns when placed in the rear of the fore axle, in combination with the segment on which the end of the perch rests, substantially as described, for the purpose of allowing the carriage to be turned in a small space, without having the fore wheels to run under the body, or interfering with the hind wheels.

EDWARD EVERETT,

CHARLES EVERETT, Jr.

WM. GREENOUGH, } Witnesses.
T. C. DONN. }

THE U. S. PATENT OFFICE.

TO ALL WHOM THESE PRESENTS SHALL COME, GREETING.

THIS IS TO CERTIFY, That the annexed is a true copy from the records of this Office of Letters Patent, issued to Gustavus L. Haussknecht on the thirteenth day of January, eighteen hundred and fifty-two.

IN TESTIMONY WHEREOF, I, CHARLES MASON, Commissioner of Patents, have caused the

Seal of the Patent Office to be hereunto affixed this twenty-eighth day of May, in the year of our Lord one thousand eight hundred and fifty-five, and of the Independence of the U. States the seventy-ninth. C. MASON.

No. 8648.

THE UNITED STATES OF AMERICA.

To all to whom these Letters Patent shall come :

WHEREAS, Gustavus L. Haussknecht of New Haven, Conn., has alleged that he has invented a new and useful improvement of running gear in carriages; which he states has not been known or used before his application; has made oath of his intention to become a citizen of the United States, that he does verily believe that he is the original and first inventor or discoverer of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previ-

ously known or used; has paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose.

These are therefore to grant, according to law, to the said Gustavus L. Haussknecht, his heirs, administrators, or assigns, for the term of fourteen years from the thirteenth day of January one thousand eight hundred and fifty-two, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said Haussknecht in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these Letters to be made Patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the City of Washington, this thirteenth day of January, in the year of our Lord one thousand eight hundred and fifty-two, and of the independence of the United States of America the seventy-sixth.

ALEX. H. H. STUART,
Secretary of the Interior.
THOS. EW BANK,
Commissioner of Patents.

Countersigned and sealed with the seal of the Patent Office.

THE SCHEDULE REFERRED TO IN THESE LETTERS PATENT, AND MAKING PART OF THE SAME.

To all whom it may concern.

BE IT KNOWN that I, Gustavus L. Haussknecht, of the City and County of New Haven, State of Connecticut, have invented certain new and useful improvements in the running gear of carriages or other vehicles, and I do hereby declare, that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which

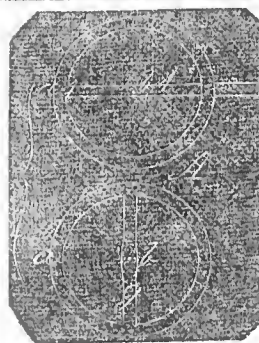
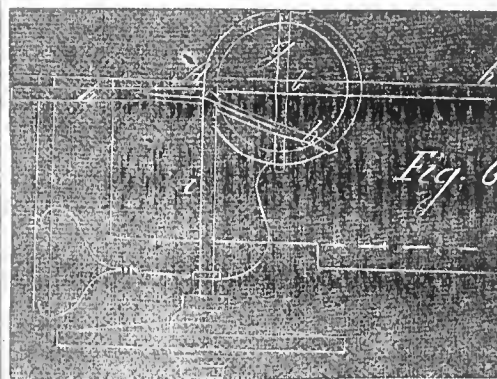
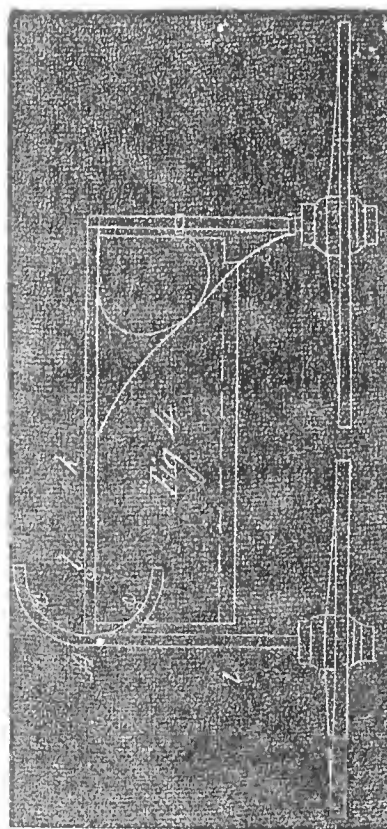
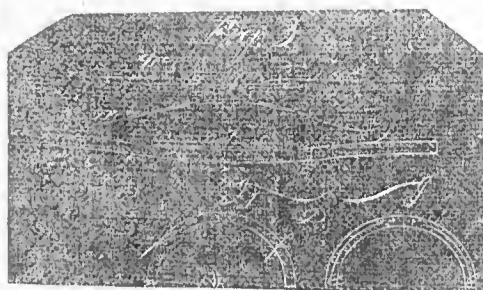
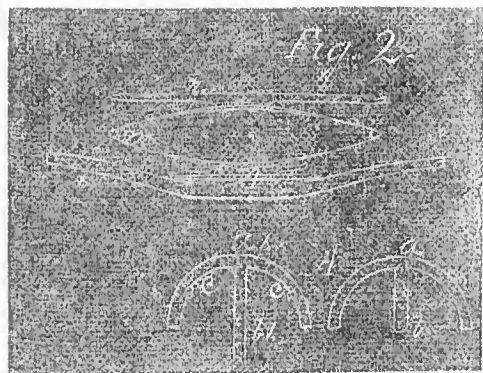


Fig. 1 is a side elevation of a carriage.

Fig. 2 is a front view of the fore axle and parts belonging thereto.

Fig. 3 is a front view of a fore axle with its parts, and shows how to apply my improvement to such carriages, where the spring is fastened to the axle, and moving with the same.

Fig. 4 is half a bottom view of the carriage.

Fig. 5 is a side elevation of a two horse carriage, with perch.

Fig. 6 is half a bottom view of the same.

Fig. 7 is a side elevation of a carriage without a perch.

Fig. 8 is half a bottom view of the same.

Fig. 9 is a side elevation of an omnibus.

Fig. 10 is half a bottom view of the same.

The same letters denote the same parts in

each of the different figures. To enable others skilled in the art to make and use my invention, I will proceed minutely to describe it.

Figs 1, 2, 3 and 4; A are two segments; to the upper one of which, a i, are fastened two hooks cc, projecting over the edge of the other, serving as stoppers, and preventing from separating; the pivot b i is welded to the perch plate, which forms an arm of the segment, and is fastened to the perch K and b i placed some distance behind the fore axle. The under one a is fastened to the axle i; b is the centre of the segment or an eye of the arm attached to the segment, which couples the axle to the carriage at b. At fig. 2 the upper segment is fastened to the head block l, and spring m, which slide upon the lower one; in fig. 3 the head block is dispensed with, the spring m fastened to the axle i and moving with the same, therefore it requires two additional segments D, their centre is placed perpendicularly above the pivot b, the top of the spring m is fastened to a traversing segment a. The mode of construction shown at fig's 5 and 6 is nearly the same as described above, only that carriages with stiff poles require full circles or plates, called fifth wheels, shown at A; the perch plate with the pivot welded thereto at b i is attached to the fore part of the fifth wheel, a i, and slides upon the lower one a, which with an additional block; g is fastened to the turning part; b is the centre of the fifth wheel and of the additional block, said block g is placed some distance behind the fore axle, (through whose centre the key bolt now commonly passes,) and attached to the futchils, extending further back, for the purpose of fastening the hind part of the fifth wheel a, whose fore part is fastened to the axle i, one of the futchils is shown at k, the turning part is coupled to the carriage at b.

It will be seen that by operating with my improvement, the wheels revolving on the axle resting on the ground, will move the body to one side out of the centre of the axle, and widen the space between wheel and body on the turning side, on which side the wheels are brought nearer together and widened more on the other side, and of course, the wheels must describe a smaller circle in turning.

With carriages, or other vehicles, constructed as above described, for the purpose of allowing the same to be turned in a smaller circle, or space, the wheels may be made of the largest diameter desired, without the fore wheels rubbing the body, or running under the same.

I do not claim the separate use of one segment on which the end of the perch rests, neither do I claim two pivots attached to the body, but, what I do claim as my invention, and desire to secure by letters patent, is, the placing the pivot in the rear of the forward axle, in combination with the two sets of segments or circles, viz: segments A and D seen at fig. 3 or their equivalents substantially as above described.

In testimony whereof I hereto subscribe my name in presence of two witnesses.

GUSTAVUS L. HAUSSKNECHT.

JULIUS H. KROCHL, } Witnesses.
JOHN AEANES. }

The following letter is from Mr. Edward Everett, one of the patentees of the Everett Coupling, which has come to hand since the foregoing matter was in type. We here give it room, and trust it will be carefully perused, as it throws additional light upon the subject:

QUINCY, Ill., June 20, 1855.

MR. SALADEE—Dear Sir:—My attention has been called to the correspondence in the

June No. of your Magazine, relative to the Carriage Coupling, of which myself and brother are the patentees. I have for some time been aware that G. L. Haussknecht or his agents have been circulating gross misrepresentations respecting ourselves and our patent, while endeavoring to sell our invention under his own patents; but have not thought it expedient or necessary to take notice of them, believing that the extravagance of his assumptions and their style of assertion without proof or attempt to enforce his alleged rights, and in the face of evidence to the contrary, would sufficiently show their groundless nature, and render it unlikely that any would be deceived by them. But now the matter having assumed the form of a public discussion in your widely circulated journal, our own reputation for fair dealing, as well as the imputations thrown out as to the validity of our patent, demand a refutation of misstatements so boldly published. I will therefore give a brief statement of such facts as bear upon the present inquiry, referring to where the proofs can be obtained.

The invention was made and first put in practice in this place, and well tested several years before a patent was applied for. I have now in use the identical vehicle to which the improvement was first applied, which now remains as originally constructed. It has the head block resting on, and sliding on the segment in the same manner as the coupling is now usually constructed. It also has a ball and socket joint perch bolt, and a stop piece to limit the motion of the fore axle; but has not got a friction roller. The above statements can be substantiated by many of my fellow citizens, as well as by the mechanics who constructed the vehicle.

Our patent was granted Dec. 17, 1850, with the claim as published in your last number. Our specifications as at first presented, contained in addition to the main claim which was allowed, two other separate claims which were rejected; one being for the stop piece, and the other for the universal joint. These two claims were erased, but the description of the devices, and also that of the friction roller, were suffered to remain in the body of the specification, as being represented in the drawings and model. The universal joint and roller were found in practice to be useless, and were therefore abandoned, but the stop is generally applied though in a modified form. These variations of our drawings and model from the form of the improvement which was afterwards found most advantageous in practice, upon which differences Haussknecht grounds his statement that our whole invention is impracticable, are to be accounted for by the fact of our not being practical carriage makers, and having at that time very little knowledge of the business.

It was not until some time after our patent was granted, and after the improvement had been applied in the form now generally adopted, that we first heard of the application of Haussknecht for a patent, which was for a coupling represented in his model and drawings as identical in principle with ours, but having the following claim, viz: "Constructing the running part of four wheeled vehicles by placing the turning point of such vehicles back of the forward axle-tree." The application was rejected, such a claim being evidently not new, even if our patent had been out of the way. The model of this rejected application was abstracted from the office (contrary to the rules) and after alteration was made to serve for his patent of Jan. 13, 1852.

Haussknecht's two claims patented Dec. 10, 1851, and Jan. 13 1852 as copied into your

journal in juxtaposition with ours, plainly show the arrangements to be different, though both of his contain the principle of our invention, but so complicated and amplified by additional parts, *claimed expressly in combination and not separately*, as to preclude either from competing with our more simple plan, if each is constructed according to the respective *claims*. In his last patent he expressly disclaims the substance of our invention, and of his own original rejected application, which of itself should be a sufficient refutation of his statements.

Most of the above has been gathered from the records, files, &c. of the patent office, which are open to the investigation of all.

A. J. Beaumont was until last year acting as my agent in selling rights to use our Patent Coupling, but finding that he had been making extensive sales which he had not reported to me, nor had accounted for the proceeds, I withdrew his power of attorney. He is a defaulter to me to a very large amount. I had furnished him with a model buggy of my own construction, to illustrate our improvement, and I am informed that he is using this very model without alteration, to sell rights by for Haussknecht.

I have thus presented the most important points in question, and will leave you and your readers to decide for yourselves which party is guilty of "misrepresentation"—who is practising a great fraud upon the public—who is most likely to have copied from the others' model—and which of the several arrangements for accomplishing the same purpose are "impracticable" or otherwise useless.

There are many other points which might be enlarged upon, but I believe the above will be sufficient for the purpose of putting those interested on the right track for investigating the merits of the case themselves. In conclusion the only "caution" I will give to buyers and users of patent rights, is, to trust to no man's mere statements when unsupported by satisfactory proof, or plain demonstration, as it is easy to make bare faced assertions trusting that their correctness will not be further inquired into.

Should there be any points which require further elucidation, I will cheerfully reply to any of your readers by letter or through your Magazine. Very respectfully, yours,

EDWARD EVERETT.

The following certificate from the Commissioner of Patents will show that Mr. Haussknecht's drawings and models were once rejected, from the fact that they interfered with the Everett Coupling.

THE UNITED STATES PATENT OFFICE.

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME, GREETING:

THIS IS TO CERTIFY, That the annexed are true copies from the files of this office of the petition and oath in the matter of the application of Gustavus L. Haussknecht for letters patent, for an improvement in the running gear of carriages, which application was duly completed and on file in this office, on the twenty-fourth day of December, eighteen hundred and fifty, and in accordance with which application letters patent were issued to the said Gustavus L. Haussknecht on an amended specification on the thirteenth day of January, eighteen hundred and fifty-two, with a true copy from the files of this office, of the file wrapper enclosing the papers in said application.

IN TESTIMONY WHEREOF, I Charles Mason, Commissioner of Patents, have caused the Seal of the Patent Office to be hereunto affixed this twenty-fifth day of June, in the year of our Lord one thousand eight hundred and fifty-five, and of

the Independence of the United States the seventy-ninth. (J. MASON.)

To the Hon. Commissioner of Patents:

The petition of Gustavus Haussknecht of the City of New Haven in the State of Connecticut, respectfully represents, that your petitioner has invented a new and useful improvement in the mode of constructing the running parts of carriages, and all four wheeled vehicles, which he verily believes has not been known or used prior to the invention thereof by your petitioner. He therefore prays that letters patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same upon the terms and conditions expressed in the acts of Congress in that case made and provided, he having paid thirty dollars into the Treasury and complied with the other provisions of the said acts.

GUSTAVUS L. HAUSSKNECHT.

By his Atty's, KIMBERLY & BEACH.
New Haven, Dec. 19, 1850.

STATE OF CONNECTICUT,
County of New Haven, ss New Haven.)

On this nineteenth day of December, A. D. 1850, before the subscriber, a Justice of the Peace in and for said county personally appeared the within named Augustus Haussknecht, and made solemn affirmation that he verily believes himself to be the original and first inventor of the improvements in the mode of constructing the running part of four wheeled vehicles herein described, and that he does not know or believe that the same was ever before known or used. That he is a native of Germany, that on the 3d day of December, 1849, he gave legal notice of his intention to become a citizen of the United States before the Clerk of the Superior Court of the City of New York, and that he has resided for more than one year next preceding this application in the United States.

M. S. BEACH,
Justice of the Peace.

No. 8648.

Gustavus Haussknecht, of New Haven, County of ——— State of Connecticut.

RUNNING GEAR OF CARRIAGES.

Received December 23, 1850.
Petition "
Affidavit "
Specification "
2 Drawing "
3 Model 24,
Cert. Dep. "
1 Cash \$10. "
Caveat Oct. 24, 1850.
Examined Cooper Dec. 20th, 1851.
2 Issue R. C. W. Dec. 22, 1851.
3 Patented Jan. 13, 1852.
Recorded Vol. 47, page 76.
Interferes with patent to Edward and Charles Everett, Dec. 17, 1850.
Hearing 3d Monday in March 1851.
Notice given Feb. 8, 1851.
Rejected Feb. 25, 1851.
Sp. and der. ret. to John Heans, May 12, '51; (see letter within.)
Sp. ret. June 20, 1851.
Dr. ret. " 27, "
Postponed July 5th, 1851.
Rejected July 14th; 1851.
Old and new papers to applicant July 19, 1851.
Drawings to applicant July 23, 1851.
Letter to Browne Aug. 2d, 1851.

THE COACH-MAKERS' MAGAZINE.

ADVERTISING DEPARTMENT. TO COACH HARDWARE & TRIMMING MERCHANTS & MANUFACTURERS.

All persons engaged in the above business, can now have the opportunity of introducing their houses to over twelve thousand Coach-Makers throughout the United States and Canada by advertising in the COACH-MAKERS' MONTHLY MAGAZINE, a Journal which is devoted exclusively to the art of coach-making in all its various branches. This is the only medium through which such houses can advertise to good advantage.

TERMS OF ADVERTISING.

Standing advertisements \$12.00 per square for one year; (twelve lines making a square,) payable within three months from the time of first insertion.

All advertisements for a shorter time than twelve months are charged 50 cts per line for each insertion; *Payable in advance.*

PLATED COACH TRIMMINGS.

WHITE & BRADLEY,

28 Cannon Street,

BRIDGEPORT, CONN.,

MANUFACTURERS OF

COACH & SADDLERY

HARDWARE.

EVERY VARIETY OF PLATED Trimmings for Coach, Calash, and smaller Carriages, Fine Coach Lamps of various patterns, Bands, (new styles,) Handles, Curtain Rollers, Mouldings, Pole Crabs and Hooks, Buckles, &c. &c. Any of our Trimmings, Plated in Silver, Brass, or Princes' Metal, are warranted to give satisfaction. Bridgeport, Conn., July 1855.



H. CALVERT & CO.,
Silver, Brass & Electro Platers,
And Manufacturers of
COACH & SADDLERY TRIMMINGS,
Cook's Improved Carriage Knobs,
AND FINISHING SCREWS,

Improved Gold Head Silver and Japaned Lining and Band Nails,
SILVER AND LEAD MOULDING,
SPRING CURTAIN BARRIERS,

Nos. 2 and 3 Japaned and Silver Cylindrical Carriage Knobs, Spring Catchers, Door Handles, Inside do., Scroll Foot Board Handles, Calash Trimmings, Card and Name Plates, Lining Band and Saddle Nails, with annealed points—Top Props and Nuts, Johns Rivets, Hub Bands, Shaft Tips, Pole Hooks and Crabs, Self-adjusting Saddle Trees, Hames, &c., &c.
FRANKLIN, NEAR CHAPLET ST., NEW HAVEN, CONN.
July 1855.

RAILWAY SPRING WORKS,

RAILWAY, N. J.,

Manufacture every variety of Car, Carriage, Luggy, Sulky, and Seat Springs, from the best quality of Steel.
A trial of our Work is solicited.
J. HAYDOCK, Proprietor,
J. GATCHELL, Agent.
July 1855.

Oldest & Largest Establishment
of the kind in the United States.

CHARLES PEARL, Brass & Silver CARRIAGE BAND MANUFACTURER,

423 & 425 MAIN STREET,
POUGHKEEPSIE, N. Y.

I AM CONSTANTLY GETTING UP NEW AND
tasty Designs for Carriage Bands, which for Beauty
and Chastity cannot be rivalled. Any new patterns
made by sending me a description of them.

Also manufacture the celebrated Princes' Metal
Bands.

Also manufacture and have constantly on hand a
large and well seasoned stock of Bent Felloes, Shafts,
Poles, and Turned Spokes of the different varieties of
Wood, and Seat Rounds of every style.

Terms—Six months for approved paper, or five per
cent, off for Cash.

N. B. None but dealers supplied.
July 1855.

SAINT LOUIS

Spoke, Felloe & Hub FACTORY.

Corner of Broadway & Ashley St.

WOODBURN & SCOTT, Proprietors of Blanchard's Patent,

Manufacture with care, of the very best
timber, the following Articles:

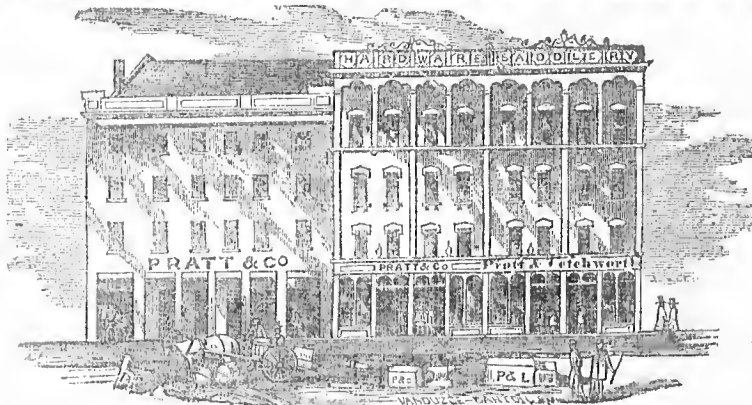
Spokes of white oak and hickory, of all sizes and patterns, from
4 cts. to 5 1/2 cts.
Wagon and Buggy Singletrees, Neck Yokes and Spring Bars,
from 12 1/2 to 15 cts. each.
Pick, Sledge, and Hammer Handles, from \$1 to \$1 50 per doz.
Bent Steel Shafts at 60 cts. 3 pr.
Bent Carriage Poles, 75 cts. each.
Bent Felloes, 1 1/2 in. and under, \$1 75 3 pr. for each additional 1/2
of an inch, 25 cts.
Buggy Bows, 75 cts. per set.
Wagon " 80 "
Morticed Hubs, 5 in. \$1 25,
" 5 1/2 & 5 3/4 in. \$1 40
" 6 & 6 1/2 " 1 60
" 7 & 7 1/2 " 1 80
" 8 to 9 1/2 " 2 00
" 10 to 11 1/2 " 2 50
" 12 to 13 " 2 60
Unmorticed Hubs, \$1 to \$2.
Effort will be made to keep a supply of the above articles always
on hand.
N. B.—The highest price paid for Oak and Hickory Spokes and
Plank. None but the best quality of timber will be received.
Aug. 1855.

SAMUEL F. PRATT,

PASCAL P. PRATT,

WM. P. LETCHWORTH,

PRATT & LETCHWORTH,



MANUFACTURERS, IMPORTERS & DEALERS IN EVERY DESCRIPTION OF
SADDLERY, COACH & TRUNK HARDWARE,

Have removed to the Buff-Color Brick Store, No. 34 Terrace Street,
Opposite the Western Hotel, and adjoining the Hardware Store of Messrs. Pratt & Co.

BUFFALO, N. Y.

[June 1855.]

SMITH & VAN HORN,

IMPORTERS OF AND DEALERS IN

CARRIAGE HARDWARE, TRIMMINGS, &C. &C

No. 70 Beekman Street, between Pearl & Gold Streets,

NEW YORK.

HAVE ALWAYS ON HAND

Spring—all qualities, Axles—all kinds, Malleable Castings, Carriage Bolts—Eastern & Philadelphia,
Patent Leather, Enamelled do., Painted Cloth, Enamelled Muslin, do. Drills, do. Duck, Broad Cloth—all col-
ors, Damask—Worsted and Cotton, Orleans Cloth—Silk Stripe, do. Plain, Brocade and Cotelines, Curtain
Silks, Silk and Worsted Coach Lace, do. Fringe and Tassels, Brussels and Velvet Carpet, Oil Cloth Carpet,
Caleche Fixtures, Spring Barrels, Curtain Frames, Coach and Buggy Lamps, Lining and Saddle Nails, Rein
Hook Levers, Brass and Silver Top Drops, Curled Hair and Moss, Turned Spokes, Morticed Hubs, Bent Fel-
loes, do. Poles, Carriage Bows, Bent Shafts, Carved Carriage Parts, do. Spring Bars, Bands, Locks, Knobs,
Tacks, Screws, Joints, Handles, Files, Shaft Jacks, Buggy Wheels, Sand Paper, English Coach Varnish,
American do., do. Brown Japan, English Black Japan for Iron Work, Wrought Iron Fifth Wheels, as well
as all other articles used in the manufacture of Carriages.

S. & V. H. from their long experience in the business, think that their stock, which has been selected with
great care and with a view to supply consumers, will, for quality and price, favorably compare with any other
in the market, and solicit a trial from Carriage Manufacturers.

N. B.—English Varnish and Japan, put up in 1 Gal. Tin Cans.—Price of Carriage Varnish, \$5.—Body,
do., \$5.75. Japan, \$5. Enamelled Leather Varnish \$6 per Gal.
[June 1855]

E. STERLING, Sec'y.

THE COACH-MAKER'S MAGAZINE.

SPROUT'S

COMBINED CARRIAGE SPRING, PERCH AND BRACES, THREE COMBINED.

In offering this Spring to the Coach-making public we would most respectfully call the attention of the Craft to the following advantages they embrace over the ordinary Eliptic Springs :

- | | |
|---|---|
| <p>1st. Possessing double the strength and elasticity.
2d. A Carriage can be built much lighter.
3d. Much less concussion to the passengers.
4th. Its liabilities to get out of repair are not near so numerous.
5th. The wheels adjust themselves to the road without the carriage rocking.
6th. Springs designed for a heavy load will carry a lighter one with ease.</p> | <p>7th. It serves effectually as a perfect brace to the whole vehicle.
8th. Requires much less labor, wood and iron to construct a carriage.
9th. The whole connection being of spring steel, a gentler motion is felt (instead of sudden jars, as with the ordinary perch and stiff braces,) and thus gives relief to the entire carriage.</p> |
|---|---|

These Springs if applied to the Carriage according to directions, (accompanying them) are not only warranted to stand, but to accomplish every point set forth in this advertisement, and any time within one year should they fail to perform, they can be returned, and the money refunded.

We are well aware that numerous patents have been granted within the last three years for improvements in Carriage Springs, and after the right was extensively sold to the Coach-makers throughout the country, many of them proved perfect failures, and thus shocked the confidence of the craft generally, in improvements for this branch of the carriage. But the proprietors of this Spring having full confidence in their improvement, have at a great expense erected large factories and employ the best facilities for their manufacture; and now offer to the public (not the right to make, &c.) but the Spring itself and in a manner that none will be the loser to give them a trial, at the following low rates:

PRICES.

Sulky Springs	per sett, \$10 00	Side Seat Buggy Springs	per sett, \$17 00
Light Buggy Spring	" 15 00	Four Passenger	" 19 00
Top Buggy	" 16 00	Six	" 22 00

Persons sending their orders for a peculiar shaped Carriage should take the side or rocker pattern of the different bodies to which the Springs are to be applied, and mark them off on the white side of wall paper, and also make the points at each end of the pattern where they desire to have the body loop to terminate, and forward the same, and the Springs will be made to harmonize with the shape and length of the bodies.

RECOMMENDATIONS.

REPORT OF THE N. Y. STATE AGRICULTURAL SOCIETY— SPROUT'S COMBINED CARRIAGE SPRINGS.

An entire new arrangement—getting double the resistance and elasticity, with less expense and weight of metal. The Committee recommend it as a valuable improvement a silver medal. In the Committee's awards they have given the Society's Silver Medal to the most meritorious articles.
J. B. LANGWORTHY.
JOSEPH SLOCUM.

I have used about one thousand dollars worth of Sprout's Combined Springs, and have not heard of the least dissatisfaction, but on the contrary universal praise. I have them under my own carriages for use, and know them to be the easiest and most durable springs that can be applied. Carriages can be got up with much greater despatch, and at less expense. All that part most liable to get out of repair is covered by these springs and warranted. They vibrate freely, and their motion over rough roads is peculiarly delightful. I can truly say I know of no spring equal to them now in use.
Milton, June 18th, 1855.

I am the owner of a heavy stable, and have used nearly all kinds of springs, and have found none equal to Mr. Sprout's for ease and durability. The tops of buggies keep their places much better, not

sagging sideways, and for rough roads nothing can equal them. I can save 50 percent in repairs by using these springs.
Milton, June 1855.

I had a 2 horse passenger wagon supplied with eliptics, which was, owing to the roughness of the roads continually getting out of repair. I had them exchanged for a set of Mr. Sprout's, since which time I have had no trouble; often carrying double what he warranted them to do. They have been in continual hard service for over two years, and are now as good as ever. They carry one or more persons with perfect ease. I also have them under buggies in my livery stable, and find them attended with much less expense than any other Spring.
Muney, Pa., June 1855.

We, the undersigned, have had the old eliptic taken out, and Mr. Sprout's put in place and although attended with considerable cost, yet the difference in ease and durability far exceeds the trouble and expense.
JOHN F. McLAUGHLIN, Hughesville, Pa.
J. M. B. PETERLIN, Atty at Law, Muney, Pa.
WM. M. RANKIN, M. D. " "
H. WOOD, M. D. " "

A short time since, as I was traveling to a neighboring county, just before me I saw a buggy with Sprout's Combined Springs, which seemed to move over the road with all ease, the wheels working into ruts, over roots and stones, at the same time the

body keeping its horizontal position, while that of my own tossed me from side to side, rendering it extremely difficult to retain my seat. I sold my buggy the first opportunity, and purchased one with Sprout's Combined Springs, and now I have the pleasure of riding as easy as my neighbors.
Hughesville, Pa., June 18, 1855.
RUSSEL BODINE.

I have a buggy and sulky with Sprout's Combined Carriage Springs, which I have used two years. In my opinion they exceed any thing of the kind ever offered to the public. Persons who consult ease, after having used these Springs, can never be persuaded back to the old eliptics.
JOHN H. ROTHROCK, M. D.
Hughesville, Pa., June 18, 1855.

TERMS:
All orders must be accompanied with the money to secure immediate attention, and directed (either by mail or express) to SPROUT, BURROWS, & CO., Hughesville, Lycoming Co., Pa., or their agent, ISAAC L. HUNT, No. 215, Pearl St. N. Y. City.

CAUTION.
Springs of an inferior quality have been manufactured and sold by persons without authority. This is to caution the purchaser as well as the vender, against such infringement, as they will be dealt with according to law.
SPROUT, BURROWS & CO., Proprietors.

THE COACH-MAKERS' MAGAZINE.

Newark, N. J. Advertisements. CARRIAGE TRIMMINGS.

GEORGE ROWDEN,

MANUFACTURER of Coach Tassels, Speaking Trumpets, Footman Holders, Tassels, Curtain Braids, Spring, Curtain and Frigger Tassels, Inside Plain and Fancy Tassels, Ball Tufts, Netting Cord, Hammer Cloth Fringes, Webbing, Hearses Fringes and Tassels, also Hearses Nets for Horses.

P. S.—Also, manufacturer of Flexible Tubing for Portable Lamps, handsomely braided. The flexible tubing for portable gas lights will admit of the light being changed to any part of the room in which it is used.

G. ROWDEN,

90, Railroad Avenue, Newark, N. J.

Feb-1855.

Wm. Wright & Co.,

MANUFACTURERS OF EVERY VARIETY OF
Railroad & Carriage Springs.
FROM THE BEST ENGLISH STEEL,
AND OF SUPERIOR FINISH.

Opposite Chestnut Railroad Depot.

NEWARK, N. J.

Orders solicited and promptly executed.
Prize Medal awarded at the Crystal Palace,
New York. [March-15]

T. B. AUSTIN, L. A. CARY, A. STIVERS.

AUSTIN, CARY & CO.,

MANUFACTURERS OF

**Coach, Engine and Signal Lamps,
AND SILVER PLATERS,**

No. 12, Mechanic St.,
NEWARK, N. J.

CONSTANTLY ON HAND, A LARGE ASSORTMENT of Coach and Buggy Lamps of the latest and most approved styles. Also, Dashes, Railings, Hub Bands, Pole Hooks, Branch Irons, Coach Door Locks and Catches, Curtain Frames, Spring Barrels, Carriage and Cartel Mouldings, Coach and Harness Ornaments, &c., &c., at Wholesale and Retail.

Feb-1855.

C. N. LOCKWOOD,

(Late Eagles & Lockwood.)

**COACH LAMP MANUFACTURER,
AND SILVER PLATER,**

16, MECHANIC ST.,

NEWARK, N. J.

THE LARGEST ASSORTMENT IN THE UNITED STATES, embracing over 100 different sizes and patterns of Coach and Buggy Lamps.

Engine and Signal Lamps, Coach and Cartel Mouldings, Curtain Frames, Dashes, Railings, Branch Irons, Handles, Pole Hooks, Tuft Nails, &c., &c., constantly on hand, at Wholesale and Retail.

[Feb 1855.]

NEWARK COACH-HUB MANUFACTORY.

The Largest Establishment of the kind in the United States.

Keeps constantly on hand a stock of from 30,000 to 100,000 sets of

MORTICED HUBS,

From 3 1/2 to 29 inches in diameter.

For Heavy Wagons, Omnibuses, Coaches, Rockaway Buggies, &c. &c.

REAR OF WASHINGTON HALL,

Broad Street, Newark, N. J.

WM. HILLES.

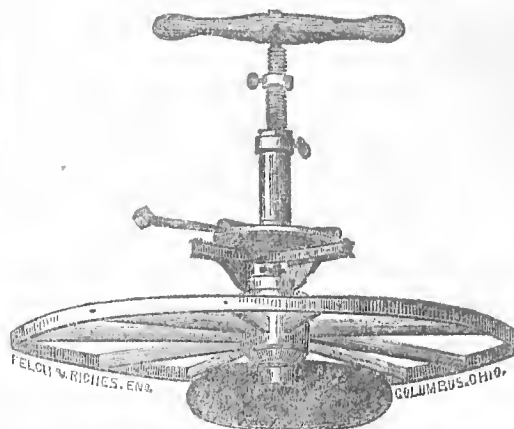
THE NEWARK SADDLERY & COACH HARDWARE COMPANY,

311 Broad Street, Newark, N. J.,

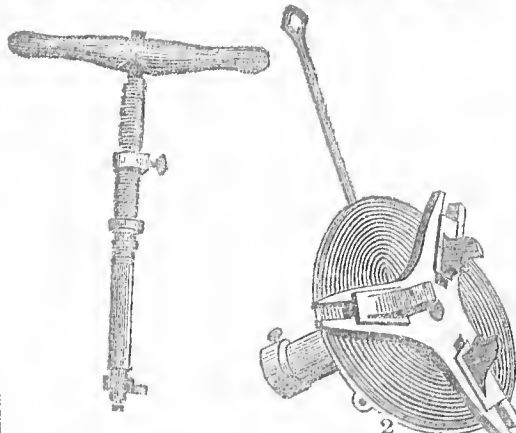
Have constantly on hand a large assortment of SADDLERY HARDWARE & COACH TRIMMINGS, consisting of Harness, Tassels, Bells, Buckles, Straps, Girths, Bumpers, Collars, Braces, &c., &c.

Patent Leathers of manufacture of all kinds.
July 1-55. F. C. BOBB, Agent.

Dole's Patent Self-Centering Hub-Boring Machine.



PATENTED JULY 25th, 1854.



The subscribers respectfully call the attention of Carriage and Wagon Makers to this celebrated and highly important improvement in machines for boring hubs and setting boxes, which is represented by the above engravings. To enable persons to see at a glance the superiority of this machine over all others, a part of the description accompanying the letters patent, is given below:

"The nature of said invention consists, first, in the employment of a self-centering lathe chuck, consisting of a scroll screw, and sliding holding jaws, as in fig. 2, which is a bottom view of the machine, in combination with a mandrel or screw, passing through its center, (as in fig. 3) and having a cutter secured on its extremity for the purpose of boring hubs perfectly true; said screw being fed, while boring, by a circular nut attached to the barrel through which the screw or mandrel works. 2nd. Its construction and arrangement of the feed and combining it with a gauge plate arranged on the mandrel, that it will be caused to adjust itself at the moment the shoulder of the hub has been cut off the required depth, and then be capable of turning with the screw, and allowing the cutter to square off the shoulder."

The superiority of this machine consists in its being self-centering, easily adjusted, simple in construction, not liable to get out of order, being applicable to hubs of all sizes, and all kinds of boxes, while the time and labor consumed in setting the boxes is one-half less than with any other machine now in use, and its cheapness places it within the reach of all.

To supply the great and constantly increasing demand for these justly celebrated machines, the subscribers have fitted up at a great expense, an establishment, expressly for their manufacture in the town of Salem, Columbus Co., Ohio, where they are now prepared to fill all orders on short notice. As they use nothing but the best of material, and the machines are all manufactured under their immediate supervision, those who may favor them with orders can depend upon getting good articles.

The want of a machine for boring hubs and setting boxes perfectly true, and with little labor, has always been felt by Carriage and Wagon makers, and many machines for this purpose have been invented, all of which have proved failures. Dole's patent supplies this deficiency. It is entirely impossible for any person with one of these machines, to set boxes otherwise than true.

The facilities for transportation are such that machines can be sent to any part of the United States at a trifling expense; the weight, including bits, &c., being only about eighteen pounds.

Price of the Machine \$15 00

Any person remitting \$15, by mail, will have the machine, complete, forwarded to them with as little delay as possible. Persons wishing to purchase the right to manufacture them in any county or State, can obtain further information by addressing the subscribers.

A. R. SILVER, Special Partner, }
L. A. Dole, Patentee. }

23 Jan 1855. SILVER & DOLE,
Salem, Columbus Co., O.

JOHN WATSON. JONATHAN CLARK.

WATSON & CLARK,

IMPORTERS AND WHOLESALE DEALERS IN

**Saddlery Hardware,
COACH GOODS, AND LEATHER
OF ALL KINDS.**

No. 480 Main st., between Fourth and Fifth,
Louisville, Ky. [Jan 1855]

SELLECK'S PATENT GIG SADDLES & TREES.



THE SUBSCRIBER RESPECTFULLY CALLS THE ATTENTION of Saddlers and dealers to his New and valuable improvement in Gig Saddle Trees, which for beauty and strength are not surpassed by any in the market. By the use of these trees the subscriber is enabled to furnish a first class rig saddle at less cost than heretofore. Also, by a proper division of labor in the manufacture of Gig Saddles only, he is prepared to fill all orders in an superior style.

To be had of the Wholesale Saddlery Hardware Merchants in all the cities of the Union, or wholesale of the subscriber No. 273 Pearl Street, New York. [Aug. 1854.]

Robt. M. Sellick
PATENTEE.

TO COACH-MAKERS.

THE SUBSCRIBER WOULD RESPECTFULLY INFORM YOU that he has had twenty-five years' experience upon carriage parts in several of the best coach factories in the State; and that in compliance with the solicitations of a number of his former employers, he has taken a shop on the corner of Chapel and Franklin streets, in New Haven, where he will manufacture to order from the best of timber and workmanship, and at satisfactory prices, crane neck Goggles, Coach, Coaches, Balances, Long Blank, Tilbury, and every variety of heavy and light carriage parts.

Particular attention will be paid to drafting and setting up patterns to suit any desired style of body.

Also, Fimb Handles, Brakes, Blocks, Bars, and every variety of Coach Carriage done with neatness and dispatch, and warranted to suit the most fastidious. Please give me a call.

J. L. MONROE,

Coach Carver and Carriage Part Maker, corner of Chapel and Franklin sts. New Haven, Ct.

Aug-1855.

P. HAYDEN,

MANUFACTURER OF

**SADDLERY & COACH HARDWARE,
COACH LACE, AXLES, MALLEABLE
IRON CASTINGS,**

**Wrought Iron & Wire, all Sizes,
SADDLE TREES & HARNES.**

Warehouse, No. 2, Buckeye Block,
COLUMBUS, OHIO.

A large stock of all kinds of Carriage Trimmings constantly on hand. Also, Nails, Steel, Elliptic Springs, &c.

March-15

M. BLANCHARD.]

[S. N. BROWN.

BLANCHARD & BROWN,

MANUFACTURERS OF

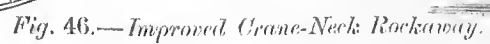
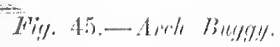
WHEELS, TURNED SPOKES, TURNED HUBS, BENT FELLOES, BENT BOWS, BENT POLES, BENT SHAFTS, WAGON FELLOES, WAGON POLES, WAGON SPOKES, WAGON HUBS, PLOW BEAMS, &c.

FACTORY ON CANAL, COR. FOURTH & KENTON STS.,

DAYTON, O.

BOTH MEMBERS OF OUR FIRM BEING PRACTICAL Carriage-Makers, enables us to select our material and manufacture the articles offered by us in such a manner as to insure satisfaction to purchasers.

All orders filled upon as favorable terms as at any other establishment.
[April-1855.]



NEW YORK, SEPTEMBER, 1855.

PLATE XVIII.

SANDER'S MAGAZINE



Fig. 47.—Quinn Patent.

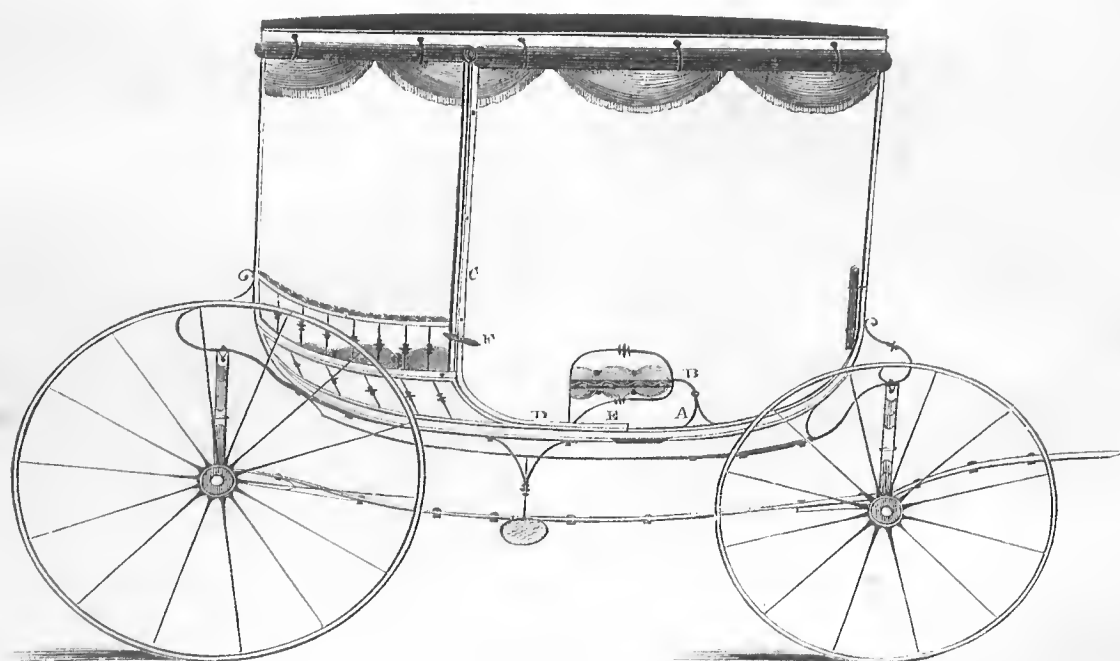


Fig. 48.—Dalton Carriage.

NEW YORK, SEPTEMBER, 1855.

THE COACH-MAKERS' MAGAZINE.

C. W. SALADEE,

EDITOR and PROPRIETOR.



VOLUME I.]

NEW YORK, SEPTEMBER, 1855.

[NUMBER 9.]

TERMS:

Single subscription one year	- -	\$3 00
Clubs of three	" - -	8 00
" " six	" - -	15 00
" " ten	" - -	20 00

Payable invariably in advance.

All Clubs, however, must be sent to one address.

Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented, stamped on the cover in gilt letters. All communications must be addressed to the Editor at his residence, Columbus, Ohio.

EXPLANATIONS OF THE DRAFTS.

For Saladee's Magazine.

FIG. 45.—ARCH BUGGY.

MR. EDITOR:—Enclosed I send you a drawing for a light Buggy, the design of which I believe is original with myself. Should it meet your approbation, I shall be happy to see it illustrated in your Magazine. The drawing will fully explain its mode of construction. By referring to the sketch you will perceive that the rocker in the body does not show from a side view at any point. The arch in the body is admirably adapted for turning the vehicle, as if properly hung the front wheel will run under as far as the reach will permit. A piece of carving running out of the front scroll as represented in the draft, makes a very appropriate and neat finish for that part of the body. The style of painting, trimming, &c., is a matter of taste, and as you have many times explained the manner such carriages should be finished, I need not again repeat it.

I have contrived a condensed blast for my black-smith fires; we burn charcoal. The contrivance referred to works to admiration. If agreeable I shall send you a drawing and dimensions of the same for the benefit of your readers generally. The advantages it maintains over the ordinary blast is, less sparks, better heat and less consumption of coal. Yours, &c., C. H.

[We have taken the liberty (as we always do) to make a few slight alterations from the drawing of "C. H." viz: in the front, and in the application of a top. The design is a good one; neat in its appearance, very light, and perfectly simple in construction. We admire the arrangement of the arch for the reception of the wheel when in the act of turning. We shall be happy to give the readers of the Magazine an illustration of the improvement in blast for smith fires, if Mr. H. will send us the necessary drawings, &c.—ED.]

For Saladee's Magazine.

FIG. 46.—ANDERSON CARRIAGE CRANE NECK.

MR. EDITOR:—Sir:—I hereby subscribe to your Coach-makers' Magazine, and at the same time send as a contribution to the same a drawing for a style of crane neck rockaway which I cannot but think will be greatly admired by that class of brother mechanics who are devoting some part of their time and attention to the getting up of work of this denomination. The rocker is hid behind the bottom side at C for the reason stated in your explanation of Saladee's Extension Phaeton in the Aug. No., (which I have just seen.) The bottom board droops perpendicular at B, the object of which you have also explained at different times. Where the rocker runs up to the back of the front seat at A it should be made round as shown in the draft, or in other words the top edge of the rocker at this point should be rounded over. The front seat is made in precisely the same manner as a stick seat to a buggy with round corners in the back, the latter extending across the seat as in ordinary cases. A piece of carving is cut in the bottom side starting from the back of the scroll as illustrated. The panels D D are made as represented by moulding. Should you think as highly of the design as do we, you can give it room in the Magazine.

I have been a regular reader of your journal, it being taken by several of my hands, but upon seeing the ability with which it is being conducted, I would not be without it for any price. When your agent Mr. Felch called at my shop in February last, I was not at home, hence it is that some of the hands have subscribed for it before myself. Enclosed you will find \$3:00. Send the back numbers when republished.

Should my present contribution meet your approbation, I will with your permission send a number of things that may be of value to your Magazine. Respectfully yours,

P. P. A.

P. S. I should state in honor to yourself that the arrangement of the front seat and crane neck I caught from your Extension Phaeton, but is differently connected with the body.

P. P. A.

[We have seen a great many attempts at different times at drafting a Rockaway Carriage, with the crane neck front, and many good things have been produced, some of which we have illustrated in the Magazine, but this drawing of Mr. A.'s seems to us to be the Napoleon of crane neck rockaways, and will certainly be looked upon in the same light by many coach-makers who are continually producing something new and fine. Our Magazine is ever open to such contributions.—ED.]

For Saladee's Magazine.

FIG. 47.—QUINN PILATON.

MR. SALADEE:—I have often thought of sending you a draft of a style of Phaeton that I have been making for some time, and one that is very much liked in this part of the country, but could never get my head cool enough to make a drawing of the same until the other evening, when thanks to a cooling shower (which was much needed) I was enabled to handle the drawing implements (which are a beautiful jack-knife and a monster pencil, such as we commonly use about the bench,) a short time, and the result has been what you now see.

The body is a solid side, with a stick work quarter, left open as shown in drawing. The rocker at back terminates by forming a pump handle, which should be neatly carved. I am using Sprout's combined Spring and Coupling, and have illustrated it in this draft for the reason that no other spring will answer my customers, and I am applying them to nearly every job that I am now getting up in my shops. The more carriages I furnish with those springs the better I like them, and upon seeing that you have commenced using them and have heartily endorsed their operations, I shall feel no delicacy in saying that they are the spring that are bound to make one big stir among the old eliptics; still I will not predict all I feel certain they must accomplish, lest you might class me with the wise men of the east, whom you refer to in your strictly correct notice of Hubbard's improvement, in the March No. of the Magazine. What a pity the Magazine was not in existence when this humbug was in full blast, as, if your article could have appeared one year sooner, it would have saved us poor devils in this region many a dollar now gone to the wind. But who is going to cry for spilt milk? Not I! "Onward;" that's the motto.

G. A. Q.

[If every cooling shower that falls upon a certain spot in Pa., produces a drawing like the one sent us by Mr. Q., we sincerely hope it will rain regular once a month at least. Now it is nothing strange with us to hear of mighty wonders being accomplished with the jack-knife, when in the hands of Yankee Dave or some other notorious gent from Vermont, but when a Pennsylvanian steps up to our table and slaps down such a drawing as this, saying at the same intine: "There, Mr. Editor, that was done with a jack-knife and a monster pencil;" we begin to think he is some draftsman, and politely ask him to whittle out some more of the same sort.—ED.]

For Saladee's Magazine.

FIG. 48.—DALTON CARRIAGE.

MR. SALADEE:—Our foreman has executed a drawing of a style of carriage with turn over

seat that we are making pretty extensively, and which we have concluded to contribute to your very popular and useful Magazine. The body is, as every carriage maker will understand, solid side, with sill and rocker. A is an upright branch iron with an eye in the top; B is an iron rod connected to the eye and seat, by which means it is turned over. C is a perpendicular pillar the bottom of which is fastened to the thin iron plate D which is fastened to the body by means of a pivot joint E at the top in like manner, the object of which is that when the wide curtains on the side in front are down, the passengers can get in and out of the carriage by unlocking pillar C at handle F, without disturbing the curtain. This, we think, a very great improvement in carriages of this class, as, when out in a rain with all the curtains down, it is with the greatest difficulty that you unknob the curtain on either side so that you can get out, or in case you are getting into the carriage, it is almost a thing impossible to knob the curtain after you. This carriage is what we call something nice; still we make no pretensions to compete with you live yankees. If it is worth publishing you are at liberty to use it in that way. G. W. D. & CO.

[This is the best design for this kind of carriage we have ever received from any of our correspondents. It is well drawn, and is a model for a neat, light and convenient family carriage.—Ed.]

The Coach-Makers' Magazine.

SEPTEMBER, - - - - - 1855.

FRICTION.

Friction has been treated upon at great length and divided into several branches by modern writers, but the greater part of their ingenious experiments is of little use in real practice. However, the few remarks that we now propose to offer upon the subject will have no pretence to the establishment of any new theory, but are the results of actual experience.

The species of friction we would here describe, is that which is caused by the rubbing of one surface upon another, over which it is required to move. Now we have already explained (in the last and other of the back numbers of the Magazine) that the wheel of a carriage rolls over the space through which the vehicle passes, instead of rubbing, thereby transferring the friction to the axle and box in the centre of the wheel. These parts are therefore of great importance in the construction of carriages, as security and ease of draft depends in a great measure upon them. However wide the various theories may differ in other respects, the following rules we believe are universally admitted.

1. That friction is diminished by making the surfaces perfectly smooth which move upon each other. Now before the necessary degree of smoothness can be given to iron axles for carriages, it is necessary that they undergo the process of case hardening. By this means (as we have before informed our readers,) the surfa-

ces are carbonated and rendered equally hard with the hardest converted steel, with this important advantage, that as the carbonate does not penetrate farther than $\frac{1}{2}$ part of an inch from the surface, the necessary degree of hardness for receiving a perfectly smooth surface is obtained, without effecting the tenacity of the iron in the least. If this process of case hardening is neglected (which is usually the case with the common sort of axles) frequent greasing becomes a duty of necessity, for if the surfaces are allowed to come in contact, the softer parts of the iron yield under pressure, while the projecting parts of each surface fastening upon each soon become firmly united, or from increase of friction produce so much heat as to set the hub on fire. This occurrence can be witnessed almost daily in vehicles of speed, and especially do we observe it in the box and journal of railroad cars.

2. Friction is diminished by introducing some oily substance between the rubbing parts. The fitness of this medium must be determined by the quality of the surfaces rubbing upon each other. If the axle and box are (as they invariably should be) case hardened, smooth, and well fitted, a pure article of sweet oil answers the purpose; but the common axle (which we are sorry to say is being too extensively employed in the construction of fine carriages) requires a medium of greater consistency, such as animal fats, lard, thickened with wheat flour. Various compositions are mixed up for this purpose, but we believe there is nothing superior for the common iron axle or the wood axle to the above. Some coach-makers have got into the ruinous habit of recommending to their customers the use of lard and black lead for their carriage, when a moment's inspection of the article will convince any observer that it possesses a kind of grit which is in direct opposition to the thing desired.

3d. Friction is lessened by reducing the surfaces in contact. According to the operation of the brick on the table, referred to in our last, this is not the case. In dissenting from the result of this experiment, we mentioned something of attraction from cohesion. Thus it is submitted, that when the surfaces already spoken of are accurately smoothed and fitted by their equal pressure to exclude atmospheric air, the oily medium is with difficulty drawn in, and attraction from cohesion takes place. Hence, in this case, as with the tires of the wheels, it is advisable to reduce as much as possible the surfaces in contact, but it must here be remarked, that it is only those axles which are case hardened, that can be reduced with advantage.

Having drawn the reader's attention to so much of the theory of friction as may be practically applied to the box and axles of carriage wheels, before quitting the subject it may be proper to remark that if coach-makers generally would look well to their own interest and the fu-

ture welfare of their reputation, they will shun those cheap, rough axles with pot metal boxes, as they would any other humbug that deserves to be treated with contempt.

In our next No. we will endeavor to give our readers a chapter on the different kinds of axles now in use, and if possible illustrate those which are admitted to be the best quality, price &c., which will no doubt be a valuable item for many of our patrons.

THE GIG AND THE PHÆTON.

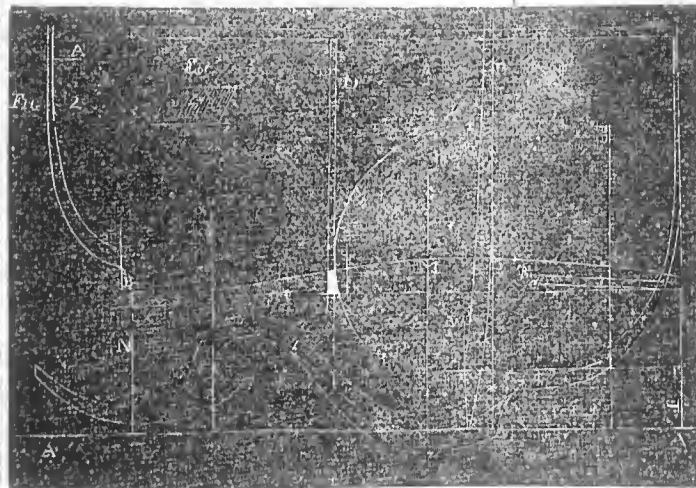
A subscriber in Virginia has written a *wonderful* article in favor of two wheeled carriages, and expresses himself lost to conceive how it is possible in this advanced age of the world when mechanics of every branch have in the eyes of the community at large become giants in their respective professions, that the coach-maker should have wandered so far from correct mechanical rules in the construction of carriages, making them with one pair of useless wheels for the willing horse to tug along, &c. He then proceeds with the sharpness of a Webster to point out the mechanical advantages and disadvantages existing between the good old gig and Phæton, showing most conclusively in his mind that no carriage with four wheels can be made to follow the horse with the same ease on soft roads as those of two wheels, and concludes by expressing his astonishment in seeing so few two wheeled carriages in this country. The sum and substance of the whole argument, (occupying one quire of fool's cap, closely written,) in favor of two wheeled carriages is that there is less axle friction in two wheels than in four, consequently the former must be best adapted to all kinds of roads, &c.

Now there are many of the knowing ones of the present generation in parts of America as well as throughout the greater part of Europe, who deny themselves the conveniences and advantages arising from the use of vehicles with four wheels from the erroneous supposition of the increased labor to draw them; they are of the opinion that there is more friction attending the use of four wheels than of two which in one sense is true. But the principle opposing force to the forward motion of carriages is owing to the roughness of the roads and hills more than to the friction of the box and axles. Roads are also found to give more or less to the pressure of wheels, the opposing part operating like a perpetual hill against the progress of the carriage. It is this circumstance which accounts for the much greater difficulty of drawing carriages over soft and hard roads, and in view of this it is easily comprehended why the heavy coaches and stages are drawn with such facility over the paved streets of New York. This argument we think also accounts for the reason of horses wearing out much sooner on flat than on hilly roads. The latter from more con-

plete drainage being generally harder than roads in level situations, the wheels consequently make less impression. Many have attributed this difference in favor of hilly roads to the occasional relief the horses experience in the alternate descents. Possibly there may be some advantage in this respect, but it appears more reasonably accounted for in the former circumstance, and in proof of this we have only to look at the increased difficulty of drawing a carriage up the same hill after being rendered soft by the breaking up of frost, or other causes, than when in its usual hard state. Let us now suppose for the purpose of experimenting, two carriages of equal height, one upon two wheels and the other on four; one we will term the gig the other the phaeton, each vehicle with its load to weigh eight hundred pounds. The weight of the gig being supported by two wheels will sustain a pressure of four hundred weight upon each, while the phaeton having four wheels supports only two hundred weight upon each wheel; hence it appears that as the phaeton wheels press the road with only half the force of those of the gig, the hill or resistance to the progress must be diminished in the same degree, and if care be taken in constructing the carriage so that the hind wheels will follow correctly in the track of the front ones, they would meet with very little resistance on account of the opposing hill having been already borne down by the wheels in front.

From this calculation it would appear that the advantages are in favor of the Phaeton, and which is undoubtedly the case if the tracking of the carriage is properly attended to, and proves also that the four wheel coach-makers have not after all wandered so far from the paths of mechanical rectitude as some people have supposed.

THE FRENCH RULE. CONCLUDED.



EXAMPLE 8.

The French Rule is a subject we might continue in many of the forthcoming numbers of the Magazine, and to some good effect, but having already extended our series of articles beyond our original calculation, and having, as we believe, with one exception, noticed all the principal points in the government of the rule, we will

endeavor to make the present article the concluding chapter. It would be a matter almost impossible to point out all the minor particulars which are observed when in the act of reducing the theory of this rule to practice through the medium of a written explanation, and aside from this it would prove rather an uninteresting task, though we might readily explain all the little items above referred to, since it is but necessary to represent the main features of the system in order to lead the practical workman to a knowledge of its objects, and various operations. As stated in our introduction under this head, when the first principles by which it is constituted are understood, little if any trouble will be experienced by the workman in comprehending the manner of its application, and thereby reduce the same satisfactorily to practice. Therefore by what we have said in the preceding numbers touching this subject, we hope that each of our readers who have given it their study will be enabled with a certain degree of practice to understand it fully, and master its principles satisfactorily.

We have intimated that one important point is yet unexplained, which is the mode of beveling the lock pillar in the door, and the rabbet pillar in the body against which the latter crosses. There is one very great and prevalent mechanical imperfection attending the construction of carriage doors at the point here mentioned, and that is the lack of a proper knowledge on the part of body makers, in giving to those parts the required bevel. The result of this mistake has frequently been observed by every coach-maker who has had any experience, and by the mass of carriage consumers generally, that, before many of the carriages now finished with doors leave the factory, it is found that the doors cramp, and it is with difficulty that they are closed, owing to the inside edge of the lock pillar

coming in contact with the outer edge of the one against which it closes, and many a foreman has committed the (not unpardonable) sin of hard words, by being compelled to take his smoothing plane and chip off the inside edge of the lock pillar after the carriage is all completed and ready to run out, in order to make the door close without cramping or touching. We are satisfied from close observation that there is not one

carriage out of every fifty now in use, which does not possess this vexatious imperfection in the arrangement of the doors, and to obviate it we give the following simple directions in connection with the French Rule. Many of our readers will thank us for the *little item* we are quite sure.

Take a pair of large dividers and place one point on line B where it crosses line M, and the other point to touch line D where M crosses it, and make circular line R. This latter line shows us the circle a door will describe, no matter what its width; therefore where line R crosses line M and H we see what the bevel of the lock pillar in the door and rabbet pillar should be. For example, let the white space between line M and H represent (from a top view) the rabbet pillar D and the black space immediately to the right of it, the lock pillar in the door, supposing the latter to be closed.) Then as before stated, where line R divides the two pillars shows us to a fraction the amount of bevel each pillar must have in order to harmonize with the rotary motion of the door. Therefore in obtaining this bevel we consult the width of the door by placing the dividers at the points as above described. Hence a door that is eighteen inches wide would make a circle of a smaller circumference than one of two feet, consequently the former would require a greater degree of bevel than the latter because the outer circumference described by the narrow door is less than that of the wide one. By this system we take a certain portion of wood off of the outside edge of the rabbet pillar, and an equal portion off the inside of the lock pillar, and thus impart to both the required bevel, according to the width of the door.

PAINTING.—NO. 4. PAINTING THE BODY.

Receipt No. 13.—The first step we are called upon to take in the execution of this important task, is that of applying one coat of boiled linseed oil immediately after the body is taken from the hands of the wood workmen; (the object of this we explained in our last;) when this is dry apply one coat of lead priming as Receipt No. 2 page 72. This dry cut down with sand paper, dust off, and repeat the coat as above. When this is sufficiently hard and dry, the next thing in order will be to putty up the body thoroughly, and glaze the rockers and all other parts which are exposed, if made of an open grained wood.

The putty for this purpose should be made as follows: Take $\frac{1}{2}$ lb. dry white lead, drier, a small quantity of boiled linseed oil, and a like proportion of copal varnish, and for the purpose of making it still more hard many painters add a small portion of red lead; thus mixed it is thoroughly pounded with a hammer, so as to render it fine and smooth. The object of preparing this material in the manner described, is, first, to prevent its swelling and shrinking, as is generally the case with all ordinary preparations of this kind; Second, so that it will become equally hard as the paint filling, which is to be cut down with pumice stone and water, and thus will cut off smooth to the surface while undergoing this latter process, and third, as it becomes

equally hard with the paint applied to the surface, it will never be attended with the usual difficulty of showing through the finished surface of the painting in a few months after the carriage is turned away from the factory, which is so frequently observed to be the case. When applying the putty to nail and screw holes, care should be taken to have them amply filled, and even more than full, so that when the body comes to be cut down with the pumice stone and water the surplus putty in the holes will be cut off level with the surface of the body, and thus rendering the foundation of the work perfectly smooth.

Glazing is a material prepared in the same manner as the putty above described, only not so heavy or thick. In preparing it you will so employ the materials as to render it of a body or thickness that will not run when laid on a flat piece of glass; it is then ready for use. This, as before stated, is applied to the rockers, pillars, &c., as these parts are usually made of ash, which is naturally a very open grained wood, especially that employed in the construction of bodies. Having puttied the body as directed, you will proceed to apply the glazing by taking a small portion of it on the end of your putty knife and spreading it over the work, at the same time bearing heavily on the end of the knife in order to press the glazing thoroughly into the pores of the wood. After a portion of the surface is thus spread over, you will take the point of the putty knife (which should be 1 in. wide with square point,) and scrape off the surplus material; thus you effect the object in view, viz: fill up the pores of the wood without having the glazing to adhere to other parts. If time will permit, (as it should in all cases where a perfect job is expected, for as much depends upon time as labor, in order to accomplish a good piece of coach-painting,) the body should remain in this state at least three days in order to give the putty ample time to become thoroughly dry and hard. At the expiration of this time one coat of lead priming is applied, which having become hard, you will proceed to prepare your paint filling as Rec't No. 4. This material is applied very heavily for the purpose of filling up thoroughly all the open parts of the wood, &c., about the body. From two to four coats of this preparation is given, according to the kind of body, and the manner in which it is intended to be finished; if a fine body, pannel work, never less than four coats should be given. Some painters on this class of work even exceed this number of applications, but if it is an ordinary job, and to be commonly finished, two coats is all sufficient.

These coats of filling should be applied one in every twenty-four hours, after which the body should stand from six to ten days, according to the amount of paint that has been laid upon it. If but two coats have been applied, six days will make it sufficiently hard to cut with the pumice stone and water, but if four or five coats have

been added, it will require from ten days to two weeks.

The body having now remained in its heavy coats for this length of time, you can now proceed to cut it down with pumice stone and water, which is done in the following manner: First, you want a sponge, a bucket of water and several pieces of pumice stone, varying in size from 1 in. square to any larger size that may be handily used. A surface must be ground on each of those different pieces, some oval, some concave and others flat, to correspond with the various different surfaces of the body you intend to rub. Having all things ready for operation, you will proceed to cut down the filling, holding the stone in the right hand, and the sponge in the left, with which you will keep the surface you are rubbing constantly wet. After you have commenced rubbing a thick slush will gather up in masses before the stone, which you will clean off with the sponge. This should be repeated as frequently as the filling is thus cut off; otherwise should you rub the surface too long without cleaning, you will find to your disappointment, that it bears the marks of numerous scratches, which were caused by small parts breaking off from the stone while using it, and owing to a neglect of cleaning off the work repeatedly, it gets between the stone and the surface of the body and thus the scratches are produced. Particular care should be taken in this respect, for if the surface is not perfectly smooth, after it has been cut down in this manner it is next to an impossibility to produce a smooth and well finished piece of painting, as the scratches before alluded to will always have a tendency to show through all the substances hereafter applied. You can easily ascertain when the work is sufficiently cut, by noticing each time when cleaning off, whether it has the appearance of being perfectly smooth and level, after which no more rubbing is required. You will then wash off the entire body with clean water and sponge. The body having now become perfectly dry and all the corners and contracted parts cleaned and slightly rubbed with a very fine sand paper and dusted off, one thin coat of lead paint is applied; this coat should be ground perfectly fine, as it is being laid upon a very smooth surface. The body should now stand at least forty-eight hours, when it is thoroughly rubbed off with fine sand paper, and cleanly dusted. We are now ready to apply the color we intend the body to have.

CONTRIBUTORS TO THIS NUMBER.

MRS. JULIA S. DECALL, of C. E.
MISS VIRGINIA WATSON, of Pa.
J. L. BLINN, of Texas.
G. & D. COOK & CO., of Conn.
CHA'S HOLST, of S. C.
P. P. ANDERSON, of N. Y.
G. A. QUINN, of Pa.
G. W. DALTON & CO., of Ga.
ABRA'M TERRILL, of N. J.;

ANSWER TO CORRESPONDENTS.

C. W. D. & Co., of Mo.—Nothing seems to us a greater violation of true mechanical principles than the prevalent fallacy of hanging one end of a carriage body from one and a half to two inches higher than the other, for no better reason than that one extremity of the body is the heaviest, or that it will be so when the weight it is intended to carry is applied according to the arrangement of the vehicle. Thus we see the majority of those carriages which leave a driver seat outside hung highest in front, and those phaetons and light rockaways which carry the greater portion of the load back of the centre of the body is hung highest behind, and so it ever remains unless it always carries the required number of persons to bring it down to a level, (and which we find is not universally the case. It matters not what the arrangement of the carriage may be, whether most of the load is carried in front or back; we contend the body should invariably be hung level or parallel with the base line or ground, and give additional support to the spring, sustaining the heavier part, and thus the carriage will hang perfectly horizontal, loaded or empty, and under all circumstances presents a much better appearance.

F. S., of Ga.—Your design for a perpendicular whip saw you will find to be a hoax when you come to give it a practical investigation. We have seen the like before, and know we are right in this prediction.

S. S., of N. Y.—Is it a fact that one part of the rim of a carriage wheel while in motion progresses with a greater velocity than another? We answer, yes. Your theory of revolving a wheel on a fixed centre, suspended in the air would of course establish your position without a doubt, viz: that every part of the rim revolves equally alike. But, sir, if you will transfer the wheel from your fixed centre to that of a moveable one, and at the same time permitting it to rest upon the ground (which is a correct application of a carriage wheel,) you will find that your argument will not stand the test, as by this experiment you must observe that the forward motion of the carriage causes the extremity of the wheel to revolve with much the greatest velocity, and thus, you will also perceive that the revolution of a wheel on a fixed centre operates entirely different from one on a moveable centre, consequently you are laboring under a great mistake.

J. P. H., of Ohio.—Some wheel makers (as you remark) set their spokes in glue, some in white lead, others dip the tenons into water immediately before driving, and others again drive them without any ceremony, or the application of any substance whatever. From our own experience we believe glue to be the best adapted for all permanent joints about a carriage. We are aware that many of our brethren are in favor of white lead for the tenon of spokes, contending that it preserves the latter and is not affected by the water, &c. If this argument is based upon correct principles it follows that glue should be entirely abandoned in all the joints about a carriage, and in the construction of bodies white lead should be the substitute for glue, as it preserves the joints and will prevent the water from attacking them. Now the advocates of white lead would be far from agreeing to this, yet if their argument in favor of this material be sound they cannot avoid it.

We have not the time nor inclination to argue the several points proposed as all we might say would but point directly to this conclusion, viz: whatever substance is found to be the best adapted to hold a joint in the body, the same is equally well adapted to the spoke and mortice in the hub. And as nothing has as yet been discovered that will exceed glue in the former case, so we think there has not been in the latter.

A. P. L. & Co., of Ia.—It is impossible to comply with your request at this time; we may perhaps accommodate you in our next No. Mowery's axle is generally considered a good article, also the male axle of W. H. Saunders, Hastings, on the Hudson, N. Y. We know of no such spring, as is the Avery Spring; we are sure they are not made in Newark, N. J., at all events.

G. R., of Ky.—The reason your light buggy wheels dish the wrong way after they have been running a short time is owing, we presume, to the mortices in the hub not being properly made. The face end of the mortice should invariably be dish'd to a less or greater extent in proportion to the dish you intend the wheel to have after it is hooped. A neglect of this important duty on the part of the wheel maker is the cause of this imperfection in wheels though a wheel is intended to be straight; the mortice should nevertheless be slightly dish'd, so that if the wheel has a tendency to lean one way or the other it will naturally incline out, and thus the difficulty above mentioned is avoided.

T. A. F., of N. Y.—Don't know that we fairly understand you, as regards the spring body loops, we have used them some four years ago; they are a useless expense, and aside from this they add so little to the ease of motion that the trouble of making and applying them is poorly compensated. As to the cross elliptic spring we do not understand your meaning. Better send drawings.

G. S. M., of N. J.—The illustration of your shifting pannel knife must necessarily be delayed till our next.

Mr. A., of Harrisburg, Ky.—If you can reduce your drawing to the proper scale, $\frac{1}{2}$ inch to the foot, we shall take great pleasure in illustrating it. In its present shape it requires more work to prepare it for the engravers than we have the time to perform.

From some unknown cause, Mr. F. J. Flowers has failed to furnish us with his contributions No. 5 for this number, as promised in our last. We hope he will advise us as to the reason of the delay.

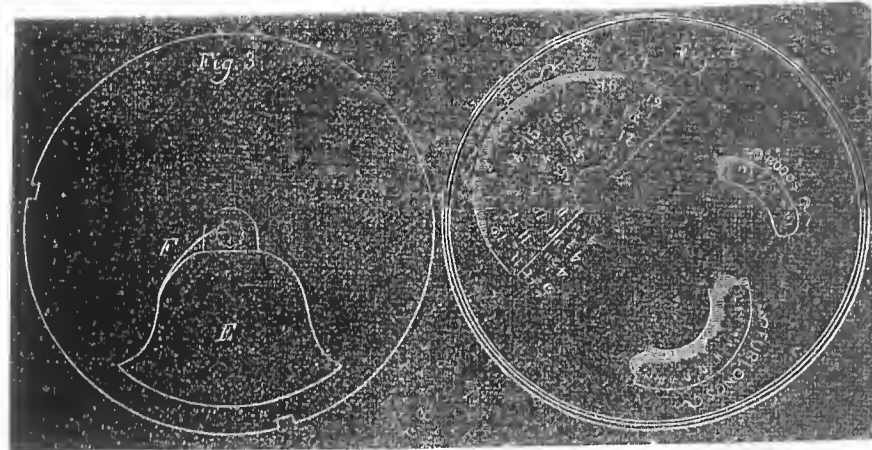
COLBURN'S IMPROVED ODOMETER FOR CARRIAGES.

In accordance with the promise which appeared in our last, we illustrate in the present number Colburn's Odometer for carriages, which is correctly represented by the annexed engravings.

The object of this improvement, as our readers already understand, consists in attaching to one extremity of the hub a small and neatly constructed instrument for the purpose of measuring the running distance of the vehicle to which it is applied, by means of a figured dial, upon which is marked in proper spaces, rods, furlongs, &c., as shown in our illustrations, and which is acted upon by the revolution of the wheel. Mr. Colburn, we believe, does not claim the invention of the odometer, but certain improvements in its manner of construction and application.

The invention of this tell tale to carriages, is, we believe, due to Germany. At all events the first mention of it that we have ever noticed in the history of invention is in 1680, at which time we are told one Godfried Kuntz, of Hamburg, Germany, invented and applied to a wheel carriage, a similar apparatus as the one here illustrated, and that it accomplished the object for which it was intended, to the satisfaction of all who inspected it. However, we find it was never brought into common use, owing, we suppose, to its complicated construction and unsightly appearance. We have seen various illustrations of odometers for carriages, but they all exhibit a most clumsy and repulsive appearance, being of immense size, which was the natural result of the principle upon which they were constructed.

The annexed figures represent a new odometer for measuring the distance which a carriage travels, improved by F. S. Colburn, of Ipswich, Mass., who has taken measures to secure a patent.



and neat instrument is attached to the carriage by a clamp, which holds it to the hub. The clamp is slipped over the end of the hub, and turns round with the same as the wheel revolves. In the inside of this odometer, which is a small box, the weight, E, is suspended on a stud or small shaft, and it will be observed that it always hangs perpendicularly while the odometer revolves with the hub. Upon this principle of action the whole of the wheels are operated on. The small stud on which E is hung, is the ratchet wheel in fig. 3, into which the ratchet F, takes, which moves one notch every revolution, but the ratchet F, by passing over the teeth of the small wheel, fig. 3, when the carriage is backing, allows the weight to move freely, and consequently there is no registering. The motion imparted in one direction by the weight to the shaft, G, moves the wheel, H, fig. 2, one tooth every revolution of the odometer, and every revolution of wheel, H, moves the wheel, I, (which should be set with its ratchet in a contrary direction) one tooth, and this wheel, I, moves the one, J, which

the figures represent one of full size which has been used repeatedly. It will be observed that the wheels are simply moved on the clock-work principle of gearing to reduce the revolutions from the first to the last, which registers the miles; the whole operations being dependent upon the suspended balance weight E. The instrument is neat and simple, and is very convenient.

We again repeat that this will be a most desirable tell tale on carriages used for the livery business. The B'hoys could not hire a team to drive five miles, and when out of sight of the proprietor drive ten or fifteen without his detecting them, and there are but few persons who go out with a carriage but would like to be able to tell the distance they have traveled when they return, and yet there is no way of doing this correctly but by such an instrument. Should its operations prove as perfect in all respects as represented, it will certainly be a valuable little idea.

FOGLESONG & ANDERSON'S IMPROVED CALASH TOP.—In the July No. of the Magazine we promised to illustrate this improvement in the August issue, which we failed to do for the reason that we did not receive the model from the inventors at the time agreed upon. A letter from the above gentlemen, just received, explains the long delay, and promises to furnish the model by the middle of the present month, (Sept.,) in which case it shall be illustrated in our next. From the hasty glance we gave the drawing of the letters patent, &c., some time ago, we are induced to believe it a very desirable improvement in Calash tops.

THE OHIO STATE FAIR AGAIN.—We have just visited the grounds, which are now completed for the annual exhibition of Ohio. They are situated within half a mile of the capitol, on the opposite side of the river. They are beautifully arranged, and well adapted for the purpose. Great preparations are being made in the city at this time for the accommodation of the great multitude of humanity which will assemble on this occasion. We feel quite sure that the visitors will fare much better than they did in our neighboring city Newaak, last year.

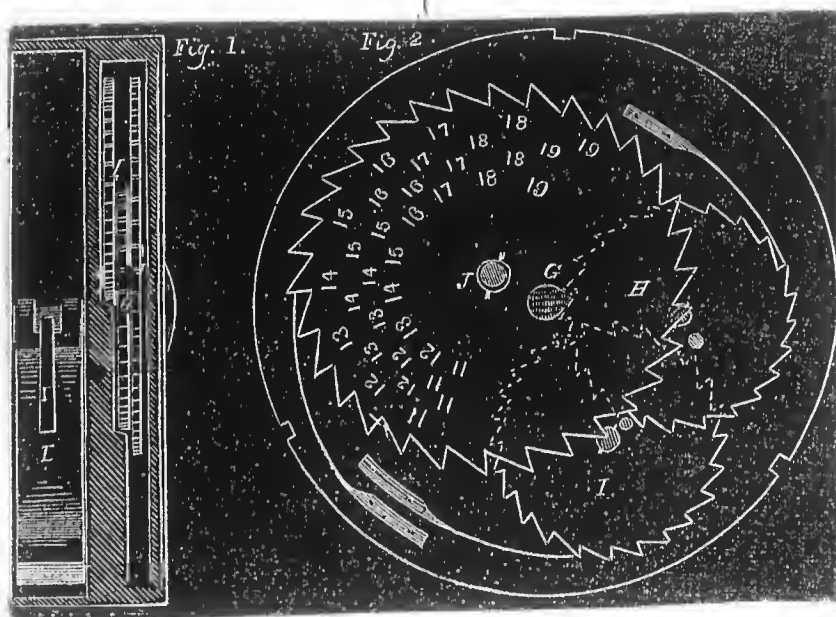
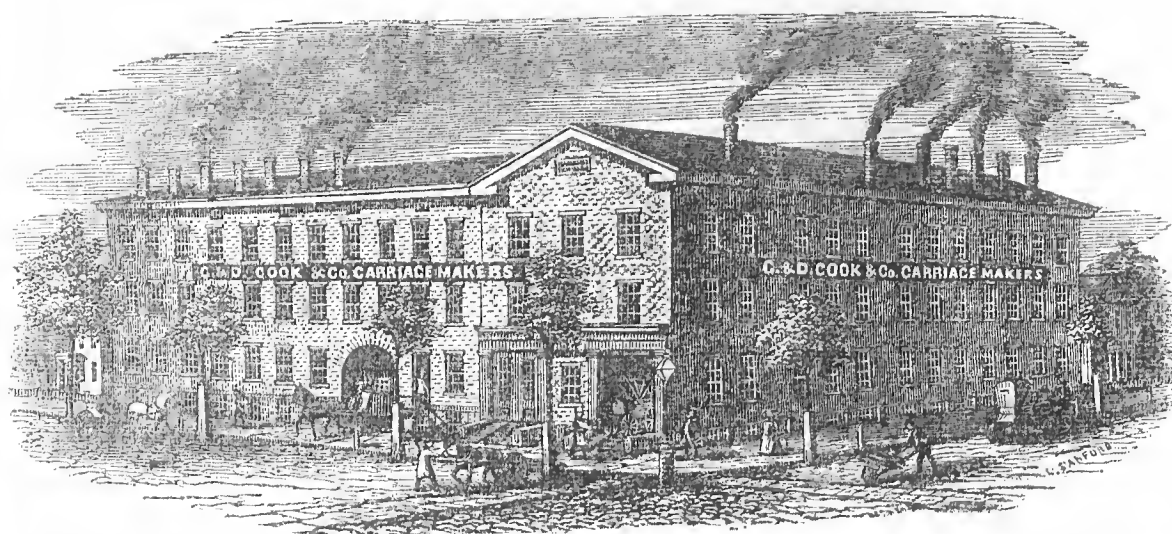


Fig. 1 is an edge view of the odometer. Fig. 2 is an inside view showing the toothed wheels. Fig. 3 is a view of the odometer weight, E, and fig. 4 is the dial of the odometer. This small

is the dial plate, and an opening in the case, fig. 4, shows it with the miles marked out. The dial is divided so as to be applied to wheels of different sizes. This odometer is small and neat;

G. & D. COOK & CO.—THEIR FACTORY.



The name of the firm of G. & D. Cook & Co., of New Haven, Conn., stands registered among the first and most extensive coach-makers in this country. The firm is composed of the following gentlemen, viz: Geo. Cook, David Cook, and James Brewster. The latter gentleman is widely and favorably known as a practical man, having been extensively engaged for the past forty years in the manufacturing of carriages. Our engraving on this page is a life-like sketch of one of the mammoth buildings now occupied by the Messrs. Cooks & Co., as a carriage factory in the above city. A glance at the engraving itself would alone impart a pretty correct idea as to the extent of their business, &c.; but in order to obviate any miscalculation on the part of any of our readers we will endeavor to give a brief statement of facts connected with this establishment.

These gentlemen commenced business in their present location in 1850 in a small brick building 50 by 28, three stories high, which they leased from Mr. Bishop, for the term of three years, but ere their lease expired they were enabled to purchase the premises, and in the fall of 1853 built an addition of 73 by 28, fronting on State Street, which then presented a front of 161 feet. In the spring of 1854 they made another addition of 50 feet fronting Grove Street, making a front on this street of 190 feet, which adding to piece by piece has resulted in erecting and completing the beautiful and well arranged building here illustrated. It is another of the model shops, and should be carefully noticed by those persons who are about erecting large and commodious factories for this business.

We feel an honest degree of pride in illustrating in the pages of the Magazine the model factories in our fraternity, and we mean to continue it from time to time, as by these illustrations we are enabled to present a striking picture of the onward march of our craft, the rapid progress of that branch of the arts yet in its infancy, but destined to follow up closely in the

track of civilization and refinement, until it shall stand second to no business in America.

The following item which we copy from a business letter from Messrs. Cook & Co., will serve to illustrate their manner of doing business, its extent, &c.

"After having our buildings completed, we commenced business on a new plan; first by originating our own style, and secondly by reducing every department to as perfect a system of operation as possible. We made only one style of top and one of no top carriage, thereby enabling us to make them very perfect and very cheap. We found sale for about three jobs per week the first year, but since the completion of our shops we finish from twenty to twenty-five per week, and find ready sale for all we make. We now supply about seventy regular carriage dealers with one style of buggy, and thus far have succeeded in keeping our customers. We have always maintained a uniform price, thus giving every dealer an equal chance one with another, and in this respect we believe we have succeeded in keeping off competition. We now employ one hundred and ten hands, and a capital of not less than \$50,000. Connected with us is the New Haven Spring Company who make all our springs and many for other carriage manufacturers. Their springs are composed of the best English steel and tempered. We think they make the most durable spring now in use, always keeping their set and warranted to give entire satisfaction. At the present time we are finishing twelve different and distinct styles of vehicles.

THE COACH FACTORY OF E. & F. H. BOOTH, COLUMBUS.

Every where as we look around us, do we behold with a pleasing satisfaction the onward march of our fraternity, and though great as it seems to-day, it is but the evidence of its infancy. But (as we have before predicted,) with the onward movement of the age, destined to a greater eminence among the giant pillars of science and art. In no instance have we seen those remarks more practically illustrated, than by the operations of our worthy brother craftsmen, Messrs. E. & F. H. Booth, Columbus, Ohio. The former partner (and elder brother) commenced business on a very limited scale in 1841,

on a part of the ground where their factory now stands, in a kind of 8 by ten shop (so to speak) where he toiled hard and steady, gaining slowly but surely till 1852, when he associated with himself his brother Henry F. The latter being all life and business, and the former one of those steady, straight forward, close calculating sort of individuals, we do not wonder at the success which has attended their labors, and both being practical and experienced workmen, accounts for the high reputation of their productions.

The average number of hands they employ, is forty-five; at the present time they exceed this number. The amount of business done by them in 1854 was over fifty thousand dollars. We love to see men prosper who are so worthy of success as these enterprising brethren. Their factories are somewhat like those of Mr. Watson, in Philadelphia, having been erected piece by piece as they progressed. However, the arrangement under such circumstances are good nevertheless, and well adapted to do a heavy business.

SAUNDERS' CARRIAGE AXLE FACTORY.

We have just received a case of Mr. W. H. Saunders' improved Carriage Axles, containing five different sets. They shall be illustrated in our next No., when we shall be enabled to give a full description of each. They are certainly a superb axle, and when thoroughly introduced, they are sure to receive a good share of public patronage. We have never seen axles of any make more completely finished than those just mentioned. The iron of which they are composed (a sample of which is before us,) is superior to any we have inspected for a great while.

Mr. Saunders has long been engaged in the manufacturing of axles, and of late years he has made extensive preparations for making his patent axles, which are fast coming in use throughout the eastern country. The perfect construction of his axles, and the fine quality of iron he uses, has already gained for him a widely extended reputation. The coach-maker need but see a sample of these axles to satisfy him of their great worth in the construction of good carriages.

CONNECTION.—In noticing the Improved Wheel in our last No., we gave Mr. J. B. Oliver, of Brooklyn, the credit of inventing the same. Since then, the above named gentleman has informed us that he was the Agent for the wheel, (not the inventor.) Mr. John Shelly is the patentee, but has sold his entire interest to Mr. D. Tilton, of New York.

In our next will be illustrated Brown's Patent Sliding Seat Carriage.

For Saladee's Magazine.

GEORGE GILBERT AGAIN.

The above gentleman called at my shop in the month of June, 1854, and sold to me a shop right in the town of Miamisburg, county of Montgomery, and State of Ohio, granting to me the right of making and vending Everett's Patent Coupling. This was early in the morning, and I was on the eve of going to the city of Dayton, and he (Gilbert) told me if I was going there, I should call on the firm of Freed, Logan and Barlow; that he had sold the city of Dayton to these men and that they were putting the coupling to some buggies then.

I went to Dayton the same day and saw these men, and they told me that they had bought the county of Montgomery, and had the exclusive right of making and vending the above improvement. I then started after Gilbert immediately, and overhauled him at Springborough. He refunded the money I had paid him in the morning, and told me to keep the deed and use the coupling, and he would stand between me and all danger. I remarked to him that he stood rather far off, upon which he remarked that he lived in Circleville, Ohio, was a *responsible* man, and was known to nearly all the business men of Ohio. He also told me he would see those men in Dayton, and have matters straightened up; but he was *never* seen here or in Dayton afterwards. My opinion is that he is a grand *rascal*.

Yours, &c.,

DANIEL BOOKWALTER.

Miamisburg, Ohio, July 28, 1855.

[In dealing with such a character, how are we to know when we are safe? Can we take his word that the territory he is offering us for sale has not already been purchased by some one else? Are we sure, when even we have ventured to secure the right of his improvement, that he will not ride a few miles further and sell our territory to a different person, and thus cause a law suit, and many hard feelings to be created between the parties; or what assurance have we, that in case anything should occur which would make our claim a disputed one, that such a *gentleman* (if we are allowed the expression,) is a responsible man, and will stand between us and all harm; such an assurance is no where to be found on the pages of common sense. Then what is to be done? The only remedy that we can prescribe is, that when such a *rascal* is detected, out of the jurisdiction of the penitentiary, to shun him as we would a serpent, and have nothing to do with him in any shape or form. If we are troubled with many more communications, narrating such rascally conduct on the part of Geo. Gilbert, we shall be induced to go to the great expense of having a life-like portrait of the gentleman beautifully engraved and give it to our readers, that they may know him in every part of the world where his honorable business may call him.

According to our request in the last No., a great many have sent us their names, and the territory they claim as bought from Geo. Gilbert, for publication, but as the notices so far exceed the space we could devote to them, we omit their insertion, and as a substitute, give the above

communication, which will show up the man more completely than ever, and should any one feel inclined to deal with him, let him remember the above questions, and be governed by the answer his good judgment may dictate, and we think he cannot be overreached with such trickery as that with which we have already acquainted our readers, which will prove as effectual as the lengthy publication of the notices above referred to.

CHAPMAN'S PATENT ELASTIC CARRIAGE SHAFT FASTENER.

When Mr. Chapman first exhibited to us his improved method for securing the shafts of a carriage, we were so well pleased with the theory of his plan, it appearing so reasonable, we called the attention of our readers to the fact of its existence in the columns of the Commercial.

Finding it in use by so many of our friends in this city, and hearing their universal expression of the entire satisfaction given by its practical operation, we are convinced it is an interest of great practical value and must come into very general use as soon as known. We believe we are doing the community a great benefit by again advertising to this Shaft Fastener. The principal on which this invention is based and which secures its entire success, is well known, and simply this—The nature of all metals is such, that where two or more pieces are placed in contact, and exposed to a continued hammering or jarring, friction is inevitably produced and consequently wear of the parts. In the joint of the shaft clips it is necessary to have a free motion to accommodate the movement of the horse and the uneven surface of the road. All experience has proved the inefficiency of metal to retain a nice fit in this part of a carriage. It matters not how snug and perfect may be the fit of this joint, or how finely grained and highly tempered in point of hardness is the metal, the result is eventually the same, it being only a question of time.—There is friction, and wear must follow. Mr. Chapman's remedy is to stop the friction on the metal by adjusting an elastic block between the shaft head and axle-tree, to receive and which does receive, all the jar, and therefore prevents all friction.

This is like many of our most valuable inventions for practical use, being entirely simple, and easily adjusted by any man—where once properly put into its place will remain permanently there, preventing all rattling noise from this part of the carriage, and by the firmness with which the bolt is held, gives perfect security against the frequent accidents occurring from the loss of these bolts and dropping off of a shaft.

We think no prudent, careful man should ride in a carriage, that has not attached to it Chapman's "Shaft Fastener."

We copy the above from the Cincinnati *Commercial*, and if the nature of the case demanded it, we might quote notices equally favorable to the above from many of the most popular newspapers in this country, but having just had the pleasure of testing this truly valuable implement, and can speak personally of its practical utility, they would be superfluous.

Every individual who has used carriages to any considerable extent, (as well as the coach-maker himself) must have observed the great imperfection attending the present mode of constructing that important joint, which connects

the shaft to the carriage, the result of which has been the cause of very many serious accidents.

The nutt which secures the bolt of this connection is naturally inclined to run off, and especially is this the case when the joint becomes slightly worn. This frequently occurs without the notice of the one driving the vehicle, consequently the bolt works out unobserved, and one side of the shaft falls to the ground, and an accident more or less serious is the result, before we are hardly aware of the cause. There is no disarrangement about the entire carriage that so much threatens the life and limbs of those riding in them, as the one just mentioned, for in this case the control of both horse and carriage is utterly lost; the cross bar of the shafts is thrown against the horse's heels, and while he makes a sudden start in one direction, the carriage is violently hurled in the opposite, upset in the road, or thrown down over some embankment, creating a scene too horrible to dwell upon.

Many have been the attempts to obviate this running off of the nutt or burr to the shaft bolt, such as a very close fit of bolt and nutt, rivetting, and some again by punching a hole through the bolt outside of the nutt, into which a strap is inserted, and by this means the object has been effected by careful persons. But then another difficulty presents itself which is very annoying, and that is the perpetual rattling and hammering of these parts when they become slightly worn. Many attempts have also been made to obviate this trouble, but all to no purpose.

Mr. Chapman's very simple improvement as described above, does most effectually obviate all trouble that has ever attended this important part of the carriage, and we are free to say, that no carriage maker who has any respect for his own reputation and the safety of the public for whom he is laboring, should permit a carriage to go from his factory without the application of this improvement. It adds but one dollar to the expense of a carriage, (which by the way we believe would be more than saved in the construction of these parts, for without its application great care and pains must be taken to make a perfect fit, which is entirely useless in the application of this invention, making a saving of one half the time required in the old way;) and what individual who is purchasing, would not willingly pay double the amount, and avoid the danger and annoyance attending the old plans. The simplicity and great practical worth of this little implement is such, that it must eventually be brought into common use.

A CARD.

We have just received an advertisement from Mr. Chapman, for the above improvement, but as it comes too late for this No., we take the liberty to state the prices, &c., of this elastic shaft fastener. His advertisement shall appear in our next.

Wholesale prices, \$12:00 per doz. pair.

Retail do., \$2:00 per sett.

Address Wm. S. Chapman, 123 Main street, Cincinnati, Ohio. Terms cash.

For Saladee's Magazine.

RAMBLINGS.—NO. 2.

MR. EDITOR:—In my last you will remember I took leave of you and your readers in Bridgeport; since then two months has elapsed, in which time I have rambled in many directions throughout New England. Truly this is an age of progress, and in no feature is it more visible than that of public conveyance.—Not the clattering old mail coach nor the slow motioned packet with its three long eared horses, on the "raging Canaul"—no, no, but the proud steamboat and the never tiring steed of iron, by whose mighty agencies we go as upon the wings of the morning, and ere the evening shades appear we find ourselves transferred as it were to the uttermost parts of the earth. Every puff of steam seems to repeat the great watch word of the age, "onward."

NEW HAVEN, CONN.—After taking leave of my new made friends and brother workmen of Bridgeport, I turned my face for the charming city of New Haven; it is the city of elms. How often have I longed for those shady trees since I have left there, and particularly so when the thermometer stood at 109 (as was the case at Springfield, not long since.) New Haven is truly an enterprising place, and in no branch of the mechanical arts is the go ahead spirit more apparent than among the coach-makers. This, like Bridgeport, is a great metropolis for vehicles, and the carriages here produced shows at once that the workmen are master mechanics, their motto truly is "onward" and this I can prove to a practical demonstration by referring you to the list of subscribers I have obtained to the Magazine in this place; if you will take the pains to turn to your books you will find that I have forwarded over *one hundred* names from New Haven alone, and if time would permit I should like to speak of all the manufacturers respectively, but as time is not left me to do so even collectively, I can but say they are as a general thing *coach-makers* of the first stamp. Was you ever in Providence, R. I.? if so I need not tell you what a smutty looking place it is. Little done at coach making here. Springfield, Mass., is, as you are aware, one of the big towns, and a stirring place to boot. Considerable is done in our line in this city. My mission thus far has been (as you have seen) abundantly blessed, but it would be more so if it were not for that plague among carriage-makers (worse than the seven year itch) "hard times."

After visiting many places too tedious to mention, I at last find myself in that great city (to which Miss "V. W.'s" Yankee Dave went to seek a fortune) Boston. In one respect it is the meanest city I ever was in. I got lost about every ten minutes; never saw such angling and twisting of streets before. A stranger may start directly east or west, and after he has walked about fifteen minutes he is as likely to find himself where he started from as any where else. However, notwithstanding all this, I made out

to find my way to "some o' the big shops" which to my disappointment are not near so numerous as I expected to find them. Comparatively little is done here in the way of manufacturing for a city so vast as it is. There is quite a number of repositories filled with imported work. I have also been to Lowell, Mass., which is another of the go-ahead places, and considerable is done in the way of carriages.

In conclusion I must again repeat the old song, viz: that the Magazine is just the work the craft has wanted for many years, and I am happy to find that they are universally delighted with it, and the able manner in which it is being conducted. Till we meet again, adieu.

ABRA'M TERRILL.

From Graham's Magazine.

THE HALLS OF MEMORY.

BY REV. A. J. WEDDELL.

In a dim and often forest,
Where the quiet moonbeams play,
By the dusky shadows shrouded
Stands the Halls of Memory.
Like the palace domes of dream-land,
Built by the wild fevered brain—
High, they stretch their marble arches,
O'er the moonlit forest plain.

Near them Lethe's deep, dark river
Rolls its sad and silent wave—
Bearing earth's forgotten treasures
Downward to Oblivion's grave;
Whilst the Bells of Time keep tolling
On the watch-towers mournfully,
As the wrecks of life are passing
Unremembered to decay.

But through every opening portal,
Swift the light-winged Hours press in,
And on rich and glowing canvas,
Paint each loved and passing scene;
Bringing from the fatal river
Treasures beautiful and bright—
And in Crystal tombs enshrining
Every chosen form of Light.

Here the spirit, worn, may wander
Midst the scenes it loved of yore,
And revisit friendly faces,
Fled from earth forevermore.
Whilst the radiant painted canvas
Our departed joys recalls—
And again, in sweetness bids us
Live the past in Memory's Halls.

There the visions of our childhood
Move beneath those arches high,
Like the shadowy forms of Angels,
In the cloudless moonlit sky;
Till by all around enchanted,
Age and sorrow pass away,
And our souls, forever haunted,
Walk the Halls of Memory.

A CARD.

Messrs. B. A. Sheidley & Bro., of Republic, Seneca Co., Ohio, have requested us to state that they are in want of a good coach painter, to whom a liberal salary will be given. Apply immediately. Mr. S. & Bro. are doing a large business, and are men of the right stamp.

WANTED.—A carriage trimmer who is capable of trimming the very best kind of coach work wishes to find steady employment for job work. He is also capable of taking charge of a trimming shop as foreman. Any establishment desirous of obtaining a first rate workman, may address "J. M.," New Haven, Conn.

The advertisement of the Tomlinson Spring and Axle Company, of Bridgeport, Conn., will appear in our next No.

CURIOUS AMERICAN PATENT CASE IN FRANCE.

We learn from our valued cotemporary, the *English and American Intelligencer*, published in Paris, of a singular lawsuit which recently took place in France, respecting a French invention, for which application had been made for an American patent in 1844.

"A person, named Mondot de Lagorge; invented some years ago a species of vessel, called by him a 'nautical locomotive,' which he pretended could go from Havre to New York in 90 hours, and, though merely skimming on the waves, could brave the most violent winds without rolling or pitching. He took out patents for his invention in France and England, and determined to take out one for the United States also. Accordingly in May, 1844, he went before Mr. Lorenzo Draper, who was then the American Consul at Paris, executed the ordinary formalities, and deposited the necessary plans for obtaining one. Mr. Draper offered to cause his brother, who was in business in the United States, to do what was necessary to procure the patent; and M. Mondot de Lagorge gave him the sum of 1,630f., and damages for his neglect. Mr. Draper represented that all he had done in the matter was in his Consular capacity, and that, therefore, he was not subject to the jurisdiction of a French court. But the tribunal decided that the objection was not valid, and ordered the case to be gone into on its merits. On the 2d March, the affair came on, but Mr. Draper did not appear. The tribunal, after hearing M. Mondot de Lagorge's statement, condemned Mr. Draper by default to restore the 1,630f., and said that he was liable to pay damages, but before fixing the amount, it required the plaintiff to give an estimate of them. Mr. Draper having taken no steps to have this judgment set aside, it, after a certain delay, became definitive. M. de Lagorge, in virtue of it, applied to the Tribunal to assess the damages. His calculation was, he said, that his 'nautical locomotive' would have produced a profit of 1,080,000f. for each of the fourteen years, during which the patent, if obtained, would have lasted. But as no 'nautical locomotive' had actually been constructed, and, as therefore his invention had not been brought to the test of experience, he was willing to set the damages at the moderate sum of 200,000f., which was less than one-fifth of one single year's estimated profits, and less than one-seventieth of the whole fourteen years' profits. Mr. Draper resisted the demand, on the ground that having acted gratuitously for M. de Lagorge, he could not be held responsible for any damages which that person might have sustained, and that it was even hard on him to have to repay the sum which had been advanced; that besides, M. de Lagorge had not proved that he had sustained any damage, as his intention had never been anything more than a mere project; and, finally, that it was by that gentleman's neglect to do what was required, that he (Mr. Draper) had not taken out his patent. The tribunal, after examining all the circumstances, decided that Mr. Draper had been guilty of some slight neglect in the business, but that as he had acted gratuitously, and as, besides, it did not appear that the plaintiff could have sustained anything like the enormous loss he represented, no other person having appropriated his invention, he (Mr. Draper) should only pay 200f. damages and the costs."—*Scientific American*.

The spontaneous gifts of Heaven are of high value, but the strength of perseverance gains the prize.

The following beautifully written article is from the pen of a Canadian lady. It will be read with the deepest interest by all of our subscribers, for the reason that it is an able disposition of that fallacy which makes a wide distinction between the professional man and the mechanic. The spirit expressed by the writer throughout the entire chapter proves her a model wife for a mechanic. We are truly proud of the compliment bestowed upon us and our Magazine, and more particularly so when we consider the source from whence it emanates. With such women in our favor, need we fear what men can do against us? Never.

For the Coach-Makers' Magazine.

THE MECHANIC.

CHOICE OF A PROFESSION, AND THE RESPECTABILITY OF MECHANICAL TRADES.

EDITOR COACH-MAKERS' MAGAZINE.—*Respected Sir*:—Perceiving that you do not altogether exclude the feminine pen from the pages of your valuable Mechanics' Journal, I have been induced to contribute my little mite in its behalf, and I trust to the benefit of many of its numerous readers.

Your Magazine is making its regular and welcome visits to the shops of Mr. De —, and from thence it is sure to find its way into our little cottage, where it is also received, and perused with much satisfaction by the writer. This may seem somewhat strange to many of your readers, as it is well known that the periodical referred to is a Coach-makers' Magazine, and devoted exclusively to that branch of the mechanical arts. Then why should I (a woman) find anything in its contents to amuse or interest me. Surely, say you, she is no coach-maker; never can be. But, reader, I am happy to tell you she is the help mate of one, and if faithful to her calling she must feel an interest, a lively interest in every enterprise that has for its object the onward progress and welfare of that branch of the industrial arts to which her husband or sons belong. This, then, is a sufficient reason for our attachment to the Coach-makers' Magazine and its enterprising editor. May he long live to guide with his present ability that enterprise which is destined to elevate his brother mechanics to a more perfect and universal standard, and when done with the cares of life may his name be handed down in the catalogue of the illustrious mechanics of his day and generation.

It should be the duty of every parent to impress early upon the mind of their boy the importance of scientific publications, such as are exclusively devoted to the trade he means to pursue in manhood, teach him to while away his leisure moments in their perusal, and thus implant a taste for the cultivation of mechanical knowledge, and a desire one day to become a master mechanic, and when the time arrives that he is called to put on the apron of an apprentice he will be prompted to go forth manfully determined to reduce such knowledge to practice, and in due season he will raise up a workman that will do honor to his trade. Then we say let every coach-maker see to it, that his sons and apprentices are furnished with the Coach-makers' Magazine, and in the end they will find that for once in their lives they have exercised wisdom.

But, Mr. Editor, we are wandering too far from our subject, and will now proceed to offer some remarks upon the choice of a profession, and the respectability of mechanical trades,

which we have collected expressly for your Magazine; you will use the same as your good judgment may dictate.

The choice of a pursuit in life, one of the most important practical questions upon which a young man is ever called to decide, is often determined by the most trifling circumstances, and without the slightest aid from judgment or reflection. One youth becomes a soldier because his grandfather was at the taking of Cape Breton, or his great uncle signalized himself in Braddock's fight; another studies medicine, and hopes to be almost an infallible doctor, because he is the seventh son of a seventh son, while a third chooses the profession of the law for no better reason than that his sponsors at the baptismal font chose to call him Wm. Wirt or Daniel Webster, or John Sergeant. Surely this is not that practical wisdom which adapts the fittest means to the noblest ends. The choice of a profession in life is at least worthy of such a consideration as common sense would dictate in any other case where success in an enterprise depends upon fitness for understanding it. Men do not expect to gather grapes from thorns nor figs from thistles. Yet they expect their sons and daughters to succeed in pursuits for which they are wholly incapable by talents, disposition, or education, and what is still more unreasonable, they expect them to be happy in situations which are totally uncongenial to their nature.

One reason why parents and guardians fall so frequently into error on this point—errors too which they lead those under their charge to embrace—is the vain imagination that there is a great and essential difference in the respectability of those pursuits which are generally admitted to be honest. The respectability of a profession, I suppose it will be admitted, must depend in a great measure on the respectability of its members, taken collectively, or regarded with reference to the most brilliant examples. If we adopt this standard it will be found no easy matter to establish a claim to superior respectability in favor of any one trade or profession, or of any class of trades or professions.

It should be ascertained that the learned professors of law, physic and divinity are more respectable than the pursuits of commerce, mechanics, or agriculture. It might be easily shown that taken collectively, the members of these latter professions or trades possess more wealth, ease, and independence than those of the learned ones, and moreover that among them as brilliant examples of mental pre-eminence patriotism and public spirit may be pointed out, as among those of the more learned professions.

In fact in a country like yours and ours, such a claim of superior respectability on behalf of any profession is preposterous, and yet it is constantly assigned by purse proud fathers and silly mothers as a reason for determining their children's pursuits in life. There is a very general impression that a merchant, a clergyman, doctor or lawyer stands higher and should stand higher in the social scale than the mechanic.

But such we find is not the fact, as a general principle, or which results in the same thing. If in a particular instance a particular merchant, for example, stands higher in social estimation than a particular mechanic, it is not on account of the respective means by which they earn their livelihood, but because the merchant in this instance has claims of wealth, family influence or education, which the mechanic may not have; but by passing into the next street you will find the tables completely turned, and the mechanic in the enjoyment of social position to which the merchant cannot aspire. This fact is sufficient to prove that a man of one trade or profession

does not take a lower position in society than another of a different profession, simply on account of the different modes by which they subsist, but by reason of other circumstances which are wholly independent of this consideration.

Mr. A. who is a merchant, for example, does not decline an intimate and social acquaintance with Mr. B. because Mr. B. is a mechanic, but because their favorite topics of conversation, their tastes and pursuits are different; and this is clearly apparent from another fact, viz: that when two persons of totally different professions happen to meet frequently upon some common ground of science or the fine arts, in their leisure hours, they immediately recognise each others natural equality and become familiar companions. They collect plants or minerals, or perform chemical or philosophical experiments together, they unite in the same pursuits in their leisure hours, and become daily more and more simulated in mind and character, as well as in their favorite recreations united, they are bound together by the strictest bands of friendship. There is therefore no necessary or essential difference in the respectability of the different trades and professions, and there is no social estrangement between their members which may not be overcome by precisely the same means which constitute the cause of intimacy in other circumstances. In point of real and essential respectability all trades and professions should be equal, and the social position which a man employs, and the degree of respect which he is capable of commanding depends not upon his trade, but upon his individual character.

If in every part of the country the stupid prejudice which would exclude the mechanic from any society to which his intelligence and good manners entitle him, is not thoroughly exploded, the time has certainly arrived when it is no longer to be avoided by well bred people. In fact the rule which would exclude a man from any drawing room in the land on the simple ground of his being a mechanic, would have excluded from the same drawing room such men as Bowditch, who was a mariner by trade, Roger Sherman, who was a shoemaker by trade, Benjamin Franklin, late Ambassador to the court of Versailles, who was a printer by trade, and Geo. Washington, a very respectable man of the last century who was a surveyor by trade.

But the imaginary respectability which a man may happen to enjoy from his position in society, is not by any means the first and most important consideration in the choice of a profession. It should not be the leading motive in determining the choice of the parent, neither should it be the main consideration in the mind of the young person himself. There is another and much more important point which claims and should receive precedence. Every parent in making choice of a profession for his son, and every son in making the choice for himself, should seriously and deliberately inquire what profession affords the best chance for happiness—happiness in the broadest and noblest sense—happiness which consists in contentment, independence, and real usefulness, happiness which begins in the conscientious and successful discharge of duty on earth, and reaches forward to the unerring retribution of the future. If such a course is pursued in making choice of a trade, happiness and independence will be the result.

J. S. De —

He that cannot forgive others breaks down the bridge over which he must pass himself; for every man hath need to be forgiven.

For Saladee's Magazine.

AWAY FROM THE HEARTH STONE—
NIAGARA FALLS.

Who would not occasionally stroll away from the familiar hearth stone, to roam beneath strange skies, breathe strange air, and to be greeted by strange voices. Who would not exchange for a season the hampered mansion in the midst of a wilderness of city for the wide and open country, where the green blade adorns the bosom of the earth, the flowers bloom, where the birds warble their native songs of joy, and the music of the gurgling waters are heard to send forth their glad some notes. Who would not exchange the massive pile of brick and mortar for the happy little vine covered cottage, shaded by the giant oaks of the forest. In such a spot, with a kind circle of friends, I could dwell in perfect happiness the remainder of my days.

There are some persons born and raised in the country who look forward to the time of becoming a resident of the city as the great era of their lives. When they arrive, the splendid horses harnessed to the gay charioteers of fashion, fine equipages, together with the beauty and magnificence, perfectly enchant them. Vanity of vanities! Let them go into those palaces and see the care, the confinement, the sorrow there; look at the toiling misery behind those fairy land windows of shops and stores; let them in their fancy at least sit on the plush cushions of those fashionable carriages of fashionable families, and listen for a moment to the slander, soul eating gossip, the deep heart sighs of real sorrow that throb beneath the costly laces and satins. Let them go beyond this maze of gayety, dive into the cellars of poverty, go to the abode of misery and wretchedness, and the illusion will break like an iris-colored soap bubble at the finger touch of the child who toys with it. There is more real joy, peace and happiness in an humble country dwelling than in all the great cities of the world put together.

Away with your steeples, streets and towers,
Your towns and your cities vain;
Where disease with extended phylloxera towers,
And the shadows of death are cast,
Where the alley, dark as December's gloom,
Never shelters a ray of light;
Where the fever's flush not the rose's bloom,
Is never bright in that living tomb,
And the day is an endless night.
Away! away with your dens of death!
In the fields let me wander free!
O the humming bird,
And the lowing herd,
And the green grass sward for me!

Tell me not of your noble parks and squares,
Of your crescents doubly grand,
A home which the workman never shares,
Though reared by his toiling hand,
Nor point to their owners, pale and sear,
Though robed in their gilded pride,
Their freshest breath is but tainted air,
For they live in a poisoned atmosphere,
With the plague house side by side.
Away! away with your dens of death!
In the fields let me wander free!
Where the blush of health,
Stamps man's true wealth,
O the hills and the dales for me!

I love not the sound of the workhouse bell,
Or the watchman's stealthy tread,
But the cheerful tones of the breeze's sweet,
And the husbandman's voice instead,
To stray on the banks of the limpid streams
As they murmuring glide along;
Or recline in the shade from the noontide beams,
Or search out the haunts of my youthful dreams,
And travel the woods among,
Away! away with your dens of death!
In the fields let me wander free!
O the cottage low,
Where the wild flowers grow,
And the rivulets flow for me.

O give me the morning's early dawn,
And the landscape's varied green,
Where the lark in air, from the dewy lawn,
In the cloud is but dimly seen!
To sport with the breeze as it gently floats;
And be fanned as the zephyrs play;
And enraptured list to the warbled notes,
As they rush in streams from a thousand throats,
To hail the approach of day?
Away! away with your dens of death!
In the fields let me wander free!
O the haunts of the dove
Are the scenes that I love;
O the wood and the grove for me!

There we can keep our minds pure and tranquil, and enjoy life and health to its fullest extent, without which all the wealth we could de-

sire could not make us happy. What is more delightful than to rise in the morning with the lark and enjoy the sweet, fresh air, and after sun to roam over the green fields, not with measured step, but as if we entered into the gayety of the scene.

Beautiful and tranquil as the country ever looks, still there is a holier repose, a calmer tranquility on the Sabbath day, as if all nature was resting in the midst of her work. The voice of the laborer is no longer heard in the field; the rattling of the wagon, the crack of the whip, and the loud shouting of the driver is exchanged for the softened sound of the distant village bells, you miss the noisy prattle of the little folks, for they are all collected at the Sabbath school. In the plain that slopes down the hill side not a human figure is to be seen, save some lonely pedestrian enjoying his Sabbath stroll. In the country dwell simple truth, calm contemplation, plain innocence and poetic ease.

In this frame of mind, Mr. Editor, my pen has got the better of me, as when I took it up for the purpose of writing the present letter, it was the intention to tell you of my visit to the Falls of Niagara last evening by moon light. Niagara by night—by moon light—in that stillly hour when the busy, restless world is in repose; no voice, no sound save the beatings of your own half timid heart; but before you, below you, the sullen roar and lonely dashing "sound of many waters." Niagara! I had never seen it before, never half dreamed of its beauty, sublimity, and still less of the little self pride I could feel while standing in mute wonder and admiration before it.

When gazing out upon the deep gulf before me, catching now and then a glance of some rocky wave below as it broke up in the moonlight, and then raising my eyes to the mist that lay in a bright and nearly transparent white cloud over the cataract, sparkling in its silver beauty, I was filled with admiration for its loveliness and at the same time awed with the grand fearfulness of the scene. I could not but smile and shudder in the same breath. To-day I have visited Niagara in order to see it by day light. Never have I experienced such emotions of thrilling and pleasant excitement as upon this occasion. No visitor, if possible, should miss viewing Niagara by night. The soft light of the moon and stars throwing such a loveliness on the scene, as they can do, rendering beautiful even those places which an interest in the day time make it a resort of the liveliest attraction. And there at that hour, alone, with the continued roar of the wide river pouring over its unseen dam of high rocks, sounding on your ears, and the pale moon with her no less beautiful attendance, smiling down upon the earth, the cataract, and, even if in your daily life you are skeptic, here the rebellious spirit will have its misgivings, and ere you are aware you acknowledge your dependence, and the great power of the architect who built the earth and the great falling flood, His water wonder, ages long past, at the dawn of creation, when the morning stars sang together. Have I wearied your patience? If so, attribute the cause to my enthusiasm on beholding for the first time the Niagara Falls by moonlight.

V. W.

For Saladee's Magazine.

FROM TEXAS.

AUSTIN CITY, June 17, 1855.

MR. SALADEE—*Dear Sir*:—We have just received the Feb. No. of the Coach-makers' Magazine, and upon a satisfactory perusal of the same we are proud to find a publication edited with such marked ability and devoted exclusive-

ly to the interests of the craft. As to the present and the future prospect of carriage making in this region, we can say but little at this writing. Our firm which is the only one I know of in this country that contemplates building carriages and buggies of a fashionable style, has just commenced operations, and have not as yet completed any of the work under way, with the exception, however, of a few plain buggies.

At the present time there are no vehicles in this corner of the world that display much art in their design, or mechanical skill in their construction. Our country is (as you are aware) new, and although the roads are fine and well adapted to the use of every description of carriages, there is not wealth enough as yet to warrant the introduction of costly carriages, nor those of the larger class. This state of things, however, cannot long remain, as this beautiful climate must have a tendency to attract the attention of emigration, and induce those who are seeking for rich lands, to settle among us, create wealth, and as a matter of course a demand will be created for articles of convenience, luxury and taste.

Our firm is composed of three individuals, Messrs. W. M. Fowler, of Tenn., J. P. Brown, of Va., and J. L. Blinn, (the writer) a native of the good old State of Conn. We have all been traveling jours, who started with the attainment of our majority for that golden land of promise which the trumper is perpetually seeking for, but seldom finding. And after working as a jour in nearly half the cities of the Union, we have finally met here, compared notes, and concluded that "Jordan is a hard road to travel;" have joined teams and settled down, determined never to rove any more.

We lack a good painter, should you know or hear of any one who would like to try his fortune abroad, you may send him this way; we will give him a good chance and have no hesitation in saying that he will soon become enthusiastically in love with this portion of the country.

One word more and I have done. I was in your beautiful city, (I mean Columbus, not New York) last summer and was so unfortunate as to fall in love while there, with one of the many pretty angels that dwell, adorn, and cheer the quiet capital of the Buckeye State. Her name! That's an item not pertaining to the art of coach-making, in either of the many branches, and therefore I will leave you to guess by stating that she is the Lily of your proud Scioto Valley, beautiful as the rose of Sharon, with a mind clear and deep, and sir, she sings like a nightingale.

Yours, respectfully,
J. L. BLINN.

RICH AGAINST HIS WILL.

Vivier, the musician, who is the present rage in Europe, is one of the rare instances of a *man of genius who has a banker*! His account with his banker used to be a very uncertain one. Now and then he was "flush" with the proceeds of a successful tour or concert, and he made haste to indulge in a little financial respectability, by making a deposit, on which he could draw checks like a capitalist. The season, some five or six years since, was very productive. He had made a tour with Jenny Lind in Germany, and his pocket being heavy on his return, the great banker, Mr. Baring, had been the recipient of some twelve hundred pounds to his account.

But Vivier's heart was in his own country, and the moment he was unoccupied, he began to be homesick. He would make a visit of a month or two to Paris, and return when the great Fair of London recalled him to the banks

of the Thames. He drove to the banker's for his money.

By the eminent Mr. Baring, he was received with a genial courtesy which genius commands, even in the marts of Mammon, from those who are its princes.

"I have called to draw the little sum that I have in your hands," said Vivier.

At these words the banker put on a grave air and slightly pinched his lips.

"It is impossible to let you have it," was the reply.

"Ah! you are perhaps embarrassed at this particular moment?" innocently supposed the musician.

"Not at all!" said the banker, and one of his clerks entering at the moment, he turned to him and said: "You will send to His Grace, the duke of——, the forty thousand pounds, which was the amount of the loan he requested."

"This reassures me," said Vivier, "If you can lend forty thousand pounds, you could easily furnish me the two hundred pounds, from my deposit, which I require at this moment for a trip to Paris."

"Certainly I *could*—but I must still refuse it," persisted the imperturbable banker.

"Monsieur!" said Vivier, "I like a joke well enough when it is not carried too far; but this seems to me to have attained its limits."

"I never joke on matters of business, sir," said Baring, "and, when I assure you that you cannot have the money you ask for, I am quite in earnest."

"Do you pretend to deny that I made a deposit with you then?"

"Certainly not. I remember perfectly, that, a short time since, you deposited with me twelve hundred pounds; for which, with a confidingness that was a compliment to me, you did not ask for a receipt."

"And will you abuse this confidence?"

"Never, of course. But still, you cannot touch the money in question."

"Your reason why, sir, if you please?"

"I will tell you. A few days before her departure for the United States, Miss Jenny Lind, whose banker I also am, did me the honor to dine with me. After dinner, we pleaded for the privilege of once more hearing her delightful voice, and she assented on one condition: that I would grant a request which she wished to make. I promised, and she sung. The song over, we claimed to know our obligation, and she then said: 'Vivier has deposited money with you—twelve hundred pounds, I hear. He ought to be rich with the money he makes, but the careless creature spends his earnings with the prodigality of a prince. Some one should be prudent for him, since he has no prudence for himself. His capital should be invested in spite of him, and the interest allowed to accumulate. This sum, now, might be, one day a little capital that would save him from want. I wish you to refuse to let him draw it out of your hands.' This is the explanation of my refusal, and you see that it originated in a kind and affectionate solicitude for your welfare."

"Oh! very well," said Vivier, "and, of course, I am sensible of the sympathy which actuated the illustrious woman whose heart is even greater than her talent; but, notwithstanding my gratitude, I do not accept the tutelage, for I am out of money, and must have it for my present need. If I can get it in no other way, I will appeal to the law."

"Very well," said the banker, "right is on your side, and you can go to law if you like, but you will ruin yourself with the cost of the suit;

and, with my means, I can make it last as long as your life, for the delays of law are endless if you choose to pay for them. Nothing shall prevent me from keeping my word to Jenny Lind, and carrying out her benevolent design. You cannot touch the money in my hands."

Before the inflexible determination of the banker, Vivier was obliged to yield, and, to the delight of his friends in Paris, he was obliged to give a concert during his vacation there, to pay the expenses of his idleness.

Vivier is the greatest of living horn-players, and though he still makes exorbitant sums of money, is as extravagant in its expenditure as ever. If he lives to the common age of man, however, he will be rich in spite of himself.—*New York Musical Review.*

(Correspondence of the Scientific American.)

DISCOVERY AND INVENTION.

In a recent number of the *Scientific American*, you quote from the *Springfield Daily Republican*, a sentiment which I think is not only incorrect, but very detrimental to the cause of improvements. That there may have been such a thing as an "accident or a fortunate blunder," by those who wander about in the field of science and art, I will not deny; yet I believe that the largest portion of those so-called accidents or blunders partake more of certain propensities than of the constructive faculties.

My fixed and settled opinion is, that the only correct basis for an inventive genius to work upon, is to see a great end or result which it is desirable to accomplish—seeing the disadvantages of the means already in use, with a full knowledge of the natural laws that God has wisely ordained—than to the mind that can reason from cause to effect (like many who have already blessed the world with the Springfield gentleman's so-called accidents,) can we look for still further improvements, which stupid gentlemen may call "blunders."

How is it that these gentlemen can journey by sea and by land from 15 to 20 miles per hour, upon the swift wings of steam, as comfortably situated as when at home in their own parlors; or should they happen to conceive an idea of any importance, it takes a lightning's leap, and distant friends are almost instantly made happy by somebody's "blunder."

I do not wish to deny the existence of straw and chaff, where there is wheat, for our Patent Office Reports show it, but was it a blunder in nature to produce the straw and chaff as well as wheat.

Messrs. Editors, I have had some experience in this line, which may apologize for my sensitiveness on this subject, (I can furnish you a list of over seventy distinct and useful improvements, now in use, made by the writer within the last thirty years, all of which sustain the truth of the old adage, "that necessity is the mother of invention.") A few of these improvements the writer has had patented, and some rejected, and twelve of them have been patented by others since the writer had them in use.)

I do not deny that I have made blunders, but the best results and the largest portion have not been blunders; neither have they been the result of long and tedious labor, but a pleasant and easy application of cause to effect, and the result equally satisfactory.

Men of science cannot, as a mere matter of course, be inventors, but an inventor to be successful and sure, must be a man of science. Inventive genius is a much more common article than sound judicious application of means to an end.

G. W. H.

GREAT TROTTING MATCH.

NEW YORK, July 13.

A great trotting match against time—20 miles within an hour—came off yesterday.—The stakes were \$5000. The celebrated mare, *Lady Fulton*, selected to beat the time, was the favorite, and the odds were 100 to 50 against her. She, however, was fully up to the work, and ended her task with five seconds to spare—doing the 20 miles in 59 m. 55s.—The last mile was trotted in 2:28. *Lady Fulton* was in fine order after the race, giving no signs of distress, and scarcely drawing a long breath. An immense amount of money changed hands on the result, and the excitement was only equalled by that created by the previous feat of *Trustee*, who trotted the same distance in 59:30½.

BARNUM has another enterprise on hand. A publishing house in Paris is engaged in issuing a series of the most distinguished beauties in the world, which when completed is to include ten of the most beautiful ladies in the United States. In order to award this flattering position to the proper persons, Mr. Barnum proposes to give \$5000 in premiums for one hundred portraits of the best looking faces. He invites any man who has a fair friend of sixteen or over to send her daguerreotype with the name and address in a separate sealed envelope. Each visitor is requested to check on a slip to be furnished such numbers as he or she thinks the handsomest. These checks are to be deposited in ballot boxes which on the 15th of January next will be opened, and the portrait having the greatest number of votes will take the first premium and so on down. These hundred pictures will then be painted in life size portraits, and ten of these deemed the best will go into the forthcoming Paris book.

RESULT OF DEEP ROADS AND HARD RUNNING WAGONS.—Sixty yoke of red bulls, according to the *Frontier News*, were seen last week, by an old lady in Kansas, hitched to an empty wagon, which was mired in the streets of this city. The team reached entirely from hill to hill, across one of our valleys, vulgarly called guts. The wagon, being very tight in the mud, refused to move; the consequence was, when that portion of the team in the lead, over on the other hill, spread themselves in a strong pull, and straightened the chains, that twenty-seven yoke of bulls in the centre were suspended in mid air, by their necks, something less than fifty feet above ground. We did not see it, but understand that a profile view was taken on the spot for the *News* office.—*Kansas City Enterprise.*

THE WORD "ITS."—Attention once called to the matter, one is surprised to discover of how late introduction the word "its" proves to be into the language. Through the whole of our authorized version of the Bible, "its" does not occur; the work which it now performs being accomplished, as our rustics would now accomplish it, by "his" or "her" applied as freely to inanimate things as to persons, or else by "thereof" or "of it." "Its" occurs, I believe, only three times in all Shakespeare, and I doubt whether Milton has once admitted it into "Paradise Lost," although, when that was composed, others freely allowed it.

"We are ruined," says Colton, "not by what we really want, but by what we *think* we do; therefore, never go abroad in search of your wants; for if they be real wants, they will come home in search of you. He that buys what he does not want, will soon want what he cannot buy."

EARLY HISTORY OF WHEEL CARRIAGES.

CONTINUED.

To some of the carriages of this period was appended a leather pouch in which the careful men carried a hammer, pinchers, nails, ropes and other appliances in case of need, and for the purpose of hiding from the public eyes these necessary but unsightly remedies for break downs, the hammer cloth was introduced; and from this circumstance it was (upon the authority of an English historian,) that the hammer cloth and boot so long after used in the construction of carriages originated.

Gay has left us two vivid pictures of the common accidents of the days of Ann, when the carmen were the terror of coaches from the first hour of their use, and whether he was the regular city carman, or bore the honor of dustman, brewers' man, or coal heaver, he was ever the same voracious and reckless enemy of the more aristocratic coachman. He says:

"I've seen a beau in some ill-fated hour,
When o'er the stones choked kennels swell the shower,
In gilded chariot loll; he with disdain
Views spattered passengers all drenched in rain;
With mud filled high, the rumbling cart draws near,
Now rule thy prancing steeds, lac'd charioteer;
The dustman lashes on with spiteful rage,
His ponderous spokes thy gilded wheels engage,
Crushed is thy pride, down falls the shrinking beau,
The slabby pavement crystal fragments strew,
Black floods of mire the embroidered coat disgrace,
And mud enwraps the honors of his face,
Where a dim gleam the paly lantern throws
O'er the mid pavement, herpy rubbish grows,
Or arched vaults their gaping paws extend,
Or the dark caves to common shores descend,
Oft by the winds extinct the signal lies,
Or smothered in the glimmering socket dies
Ere night has half rolled round her ebony throne,
In the wide gulf the shatter'd coach o'erthrown,
Sinks with the snorting steeds; the reins are broke,
And from the crackling wheel flies the spoke."

But long after Gay's time the carmen and the pavement made sad havoc with the coaches. If we open Hogarth, the great painter of manners, he shows us the vehicular dangers of his age. Bonfires in the streets or rejoicing knights, with the flying coach that went five miles per hour, the four lawyers getting out of a hackney coach that had come in collision with a carman, while the brewer's man rides upon his shaft in somniferous majesty, the dustman's bell, the little boy's drum, the knife grinder's wheel, all in the middle of the street, to the terror of horses; these representations exhibit the perils that assailed the man who ventures into a coach. The chair was no doubt safer under these circumstances, but it also had its inconveniences. Swift thus describes the unhappy condition of a fop during a city shower:

"Box'd in a chair, the beau impatient sits,
While spouts run clattering o'er the roof by fits;
And over and anon with frightful din
The leather sounds; he trembles from within."

The chairmen were absolute fellows. They crowded around tavern doors, waiting for shilling customers; but they did not hesitate to set down their box when a convenient occasion offered for the recreation of a foaming mug. They were for the most part sturdy milesians, reveling, if they belonged to the aristocracy, in all the finery of embroidered coats and epaulettes, and cocked hats and feathers. If they were hackney coachmen they asserted their power of the strong arm, and were often daring enough as a body, to influence the fate of Westminster and Middlesex elections in the terror which they produced with fist and bludgeon.

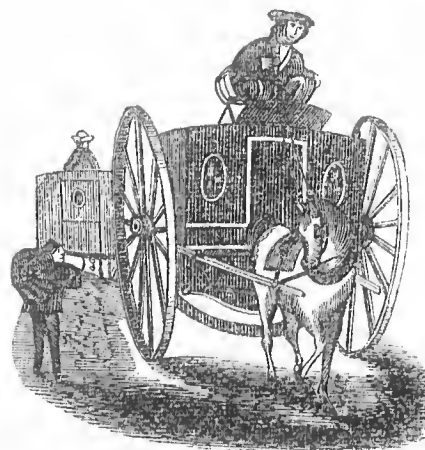
But they have passed away ne'er more to return; no Belinda can now be proud of two pages and a chair. They glide no more among the chariot wheels, amid the scene on the busy street; no more do we see them bear away the haughty nobleman who made his fellows his beasts of burden; the clubs they want them not; they have retired to Bath and Oxford. We are informed there is still one of those chairs lingering about May Fair, but the chairman must be starving. The society antiquaries should buy the relic.

Walpole has somewhere a complaint of the increase of London, that it would soon be impossible for the chairmen to perform their functions. This sounds very like the notion that the nobility and rich could ride in nothing but chairs. These were the days when the chairs had their crimson velvet cushions and damask curtains, such as Jonathan Wild recovered for the Duchess of Marlborough, when two of his rogues in the disguise of chairmen, carried away her chariot from Lincoln's Inn Chapel, while the true men were drinking. The town had increased beyond Walpole's calculations, and that is, to some extent, the reason why the favor-

ite chairs are gone. The town, it seems, did not stop in its progress to consider the chairs, but there is still another reason. The rich and the high born have wisely learned to be less exclusive than of old, and as they must in this age of go ahead, wear the coats of the same fashion as humbler men, so must they likewise ride in their own carriage, with no other perceptible difference of the carriage of his Duke and of his tailor than that of blazonry.

Papys gives us the following interesting item: "My lady Peterborough being in her glass coach, with the glass up, and seeing a lady pass by in another coach whom she would salute, the glass being so clear that she thought it open, and so in putting on the fashionable airs run her head through the glass." (1667.) This hints of the days when our earthly angels were learning to ride in glass coaches, having just passed through the transition state of open coaches, and curtain coaches and coaches with latticed windows. How ashamed the better half of John Gilpin would have been, not to have known better, and so when every body rode in coaches the lords and ladies were compelled to set up their chairs. The times are altered; we live in a different age; we have seen a peer in an omnibus. It is very difficult to conceive a London without an omnibus or cabriolet, and yet there are many in that great metropolis who can remember the time when they made their first appearance. For some two hundred years those who rode in hired carriages had seen the hackney coach passing through all its phases of dirt and discomfort, the springs growing weaker, the iron ladder by which we ascended into its rickety capaciousness more steep and more fragile, the straw filthier, the cushions more redolent of dismal smells; the glasses less air tight. But it is of little consequence, as nobody rides in them.

We are informed by the officer of London for granting licenses for carriages plying for hire in the metropolis, that licences are still granted to four hundred hackney coaches in 1841. Alas! how were the horses fed, and the drivers, living men who eat beef and drink beer. We doubt if those huge caps ever descend to receive a fare. Are they not spectre coaches; coachmen still doomed to sleep upon their boxes, as the wild huntsman was doomed to a demon chase, for propitiation. By the same authority we are informed that at the above date there were 1500 cabriolets to whom licences were granted. These we know are things of life. They rush to and fro in the streets like fire-flies, they lame few, they kill fewer, they sometimes overturn, but their serious damage is not much. The English borrowed them from the French one fine morning in May in the year 1820, and it is remarkable how slow they were in the adoption of a new thing, and how they hold to it when it is once adopted. In 1813 Paris, *Cabriolet de Place*, while at this date the English had not one. But now they far outstrip that number; the English one-horse hackney carriages have run through every variety of form, and have at last settled down into a comfortable vehicle, but they rejected them when a generation or two ago they were proffered to them. We have before us a copy of a drawing in the splendid illustrated Penant in the British Museum, in which we behold Temple Bar, with heads still blackening upon spikes over the arch and beneath it a carriage of which the following is an exact representation.



HACKNEY CAB OF THE 17th CENTURY.

There is also a print without a date giving the same delineation of the same vehicle, and this tells us that it is the carriage of the ingenious Mr. Moore. Like many other ingenious men, Mr. Moore was before his age, and before another half-century, his carriage, or something very like it, finds favor in the eyes of the English public as one of patent safety.

[TO BE CONTINUED.]

THE COACH-MAKERS' MAGAZINE.

ADVERTISING DEPARTMENT. TO COACH HARDWARE & TRIMMING MERCHANTS & MANUFACTURERS.

All persons engaged in the above business, can now have the opportunity of introducing their houses to over twelve thousand Coach-Makers throughout the United States and Canada by advertising in the COACH-MAKERS' MONTHLY MAGAZINE, a Journal which is devoted exclusively to the art of coach-making in all its various branches. This is the only medium through which such houses can advertise to good advantage.

TERMS OF ADVERTISING.

Standing advertisements \$12.00 per square for one year; (twelve lines making a square,) payable within three months from the time of first insertion.

All advertisements for a shorter time than twelve months are charged 50 cts per line for each insertion; Payable in advance.

PLATED COACH TRIMMINGS.

WHITE & BRADLEY,

28 Cannon Street,

BRIDGEPORT, CONN.,

MANUFACTURERS OF

COACH & SADDLERY HARDWARE.

EVERY VARIETY OF PLATED Trimmings for Coach, Calash, and smaller Carriages, Fine Coach Lamps of various patterns, Bands, (new styles,) Handles, Curtain Rollers, Mouldings, Pole Crabs and Hooks, Buckles, &c. &c. Any of our Trimmings, Plated in Silver, Brass, or Princes' Metal, are warranted to give satisfaction.

Bridgeport, Conn., July 1855.

H. GALBRAITH & CO., Silver, Brass & Electro Platers, And Manufacturers of COACH & SADDLERY TRIMMINGS, Cook's Improved Carriage Knobs, AND FINISHING SCREWS,

Improved Solid Head Silver and Japaned Lining and Band Nails,

SILVER AND LEAD MOULDING, SPRING CURTAIN BARRIERS,

Nos. 2 and 3 Japaned and Silver Cap'd Carriage Knobs, Spring Catches, Door Handles, Inside do., Scroll Foot Board Handles, Calash Trimmings, Card and Name Plates, Lining Band and Saddle Nails, with annealed points—Top Props and Nuts, Joints, Rivets, Hub Bands, Shaft Pins, Pole Hooks and Crabs, Self-adjusting Saddle Trees, Hinges, &c., &c.

FRANKLIN, NEAR CHAPEL ST., NEW HAVEN, CONN.
July 1855.

RAHWAY SPRING WORKS,

RAHWAY, N. J.,

Manufacture every variety of Car, Carriage, Buggy, Sulky, and Seat Springs, from the best quality of Steel.

A trial of our Work is solicited.
J. HAYDOCK, Proprietor,
J. GATCHELL, Agent.
July 1855.

Oldest & Largest Establishment of the kind in the United States.

CHARLES PEARL, Brass & Silver CARRIAGE BAND MANUFACTURER,

423 & 425 MAIN STREET,
POUGHKEEPSIE, N. Y.

I AM CONSTANTLY GETTING UP NEW AND tasty Designs for Carriage Bands, which for Beauty and Chastity cannot be rivalled. Any new patterns made by sending me a description of them.

Also manufacture the celebrated Princes' Metal Bands.

Also manufacture and have constantly on hand a large and well seasoned stock of Bent Fellos, Shafts, Poles, and Turned Spokes of the different varieties of Wood, and Bent Rounds of every style.

TERMS—Six months for approved paper, or five per cent. off for Cash.

N. B. None but dealers supplied.
July 1855.

SAINT LOUIS

Spoke, Felloe & Hub FACTORY.

Corner of Broadway & Ashley St.

WOODBURN & SCOTT, Proprietors of Blanchard's Patent.

Manufacture with care, of the very best timber, the following Articles:

Spokes of white oak and hickory, of all sizes and patterns, from 4 cts. to 5½ cts.
Wagon and Buggy Singletrees, Neck Yokes and Spring Bars, from 12½ to 15 cts. each.
Pick, Sledge, and Hammer Handles, from \$1 to \$1.50 per doz.
Bent Hub Shafts at 60 cts. 3 pr.
Bent Carriage Poles, 75 cts. each.
Bent Fellos, 1½ in. and under, \$1.75 per set; for each additional ½ of an inch, 25 cts.
Buggy Bows, 75 cts. per set.
Wagon " 80 " "
Morticed Hubs, 5 in. \$1.25.
" 6 " 5½ in. \$1.40.
" 7 " 6½ in. 1.50.
" 8 " 7½ in. 1.80.
" 9 " 8½ in. 2.00.
" 10 " 9½ in. 2.20.
" 11 " 10½ in. 2.50.
" 12 " 11½ in. 2.80.
Unmorticed Hubs, \$1 to \$2.

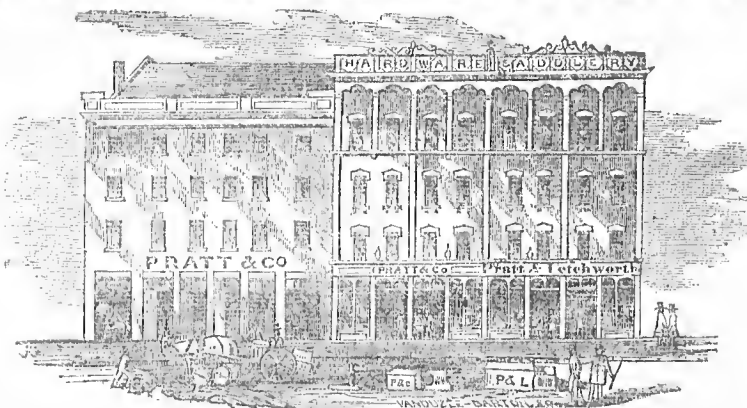
Effort will be made to keep a supply of the above articles always on hand.
N. B.—The highest price paid for Oak and Hickory Spokes and Poles. None but the best quality of timber will be received.
Aug. 1855.

SAMUEL F. PRATT,

PASCAL P. PRATT,

WM. P. LETCHWORTH.

PRATT & LETCHWORTH,



MANUFACTURERS, IMPORTERS & DEALERS IN EVERY DESCRIPTION OF SADDLERY, COACH & TRUNK HARDWARE,

Have removed to the Buff-Color Brick Store, No. 34 Terrace Street,
Opposite the Western Hotel, and adjoining the Hardware Store of Messrs. Pratt & Co.

BUFFALO, N. Y.

[June 1855.]

SMITH & VAN HORN, IMPORTERS OF AND DEALERS IN CARRIAGE HARDWARE, TRIMMINGS, &c. &c. No. 70 Beckman Street, between Pearl & Gold Streets, NEW YORK.

HAVE ALWAYS ON HAND

Springs—all qualities, Axles—all kinds, Malleable Castings, Carriage Bolts—Eastern & Philadelphia, Patent Leather, Enameled do., Painted Cloth, Enameled Muslin, do. Drills, do. Duck, Broad Cloth—all colors, Damask—Worsted and Cotton, Orleans Cloth—Silk Stripe, do. Plain, Brocades and Cotelines, Curtain Silks, Silk and Worsted Coach Lace, do. Fringe and Tassels, Brussels and Velvet Carpet, Oil Cloth Carpet, Caliche Fixtures, Spring Barrels, Curtain Frames, Coach and Buggy Lamps, Lining and Saddle Nails, Rein Hook Levers, Brass and Silver Top Drops, Curled Hair and Moss, Turned Spokes, Morticed Hubs, Bent Fellos, do. Poles, Carriage Bows, Bent Shafts, Carved Carriage Parts, do. Spring Bars, Bands, Locks, Knobs, Tacks, Screws, Joints, Handles, Files, Shaft Jacks, Buggy Wheels, Sand Paper, English Coach Varnish, American do., do. Brown Japan, English Black Japan for Iron Work, Wrought Iron Fifth Wheels, as well as all other articles used in the manufacture of Carriages.

S. & V. H. from their long experience in the business, think that their stock, which has been selected with great care and with a view to supply consumers, will, for quality and price, favorably compare with any other in the market, and solicit a trial from Carriage Manufacturers.

N. B.—English Varnish and Japan, put up in 1 Gal. Tin Cans.—Price of Carriage Varnish, \$5.—Body, do., \$5.75. Japan, \$5. Enameled Leather Varnish \$6 per Gal.
[June 1855]

NO. 137 WOOD STREET, PITTSBURG, PENNSYLVANIA.

Feb-1855.

Also, Cloths, Damasks, Paramettas, Curtain Silks, Worsted and Silk Fringes, Hosiery, Russels, Hammer Cloth and Rug Fringes, &c., of all colors and qualities; Oil Cloth, Carpet, all widths, Varnish, Tacks, Curled Hair, Silver Lamps, Paper, and Hooks, &c., &c., and everything else used by Carriage Manufacturers.

1857. The above prices are nett cash, also freight added, at the rate of 10 cents per lb., and a commission of 3½ per cent. If time is wanted, an additional 5 per cent. is added for 1 month, [June 1855.]

P. & T. HAYDEN.

[June 1855,

ROCHESTER, N. Y.

[June 1855]

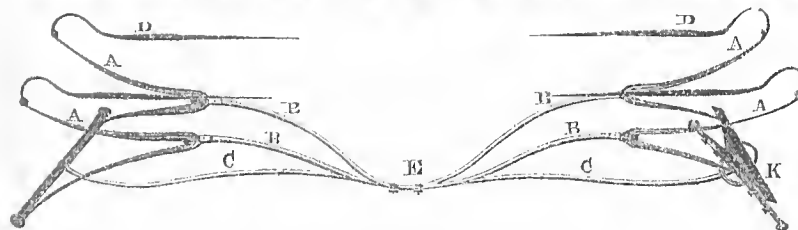
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June 1855. 1

SPRING PERCIL COMPANY.
E. STERLING, Sec'y.

THE COACH-MAKER'S MAGAZINE.

SPROUT'S COMBINED CARRIAGE SPRING, PERCH AND BRACES, THREE COMBINED.



In offering this Spring to the Coach-making public we would most respectfully call the attention of the Craft to the following advantages they embrace over the ordinary Elliptic Springs :

- 1st. Possessing double the strength and elasticity.
- 2d. A Carriage can be built much lighter.
- 3d. Much less concussion to the passengers.
- 4th. Its liabilities to get out of repair are not near so numerous.
- 5th. The wheels adjust themselves to the road without the carriage rocking.
- 6th. Springs designed for a heavy load will carry a lighter one with ease.
- 7th. It serves effectually as a perfect brace to the whole vehicle.
- 8th. Requires much less labor, wood and iron to construct a carriage.
- 9th. The whole connection being of spring steel, a gentler motion is felt (instead of sudden jars, as with the ordinary perch and stiff braces,) and thus gives relief to the entire carriage.

These Springs if applied to the Carriage according to directions, (accompanying them) are not only warranted to stand, but to accomplish every point set forth in this advertisement, and any time within one year should they fail to perform, they can be returned, and the money refunded.

We are well aware that numerous patents have been granted within the last three years for improvements in Carriage Springs, and after the right was extensively sold to the Coach-makers throughout the country, many of them proved perfect failures, and thus shocked the confidence of the craft generally, in improvements for this branch of the carriage. But the proprietors of this Spring having full confidence in their improvement, have at a great expense erected large factories and employ the best facilities for their manufacture ; and now offer to the public (not the right to make, &c.) but the Spring itself and in a manner that none will be the loser to give them a trial, at the following low rates :

PRICES.

Sulky Springs	- - - - -	per sett, \$10 00	Side Seat Buggy Springs	- - - - -	per sett, \$17 00
Light Buggy Spring	- - - - -	" 15 00	Four Passenger	- - - - -	" 19 00
Top Buggy	- - - - -	" 16 00	Six	- - - - -	" 22 00

Persons sending their orders for a peculiar shaped Carriage should take the side or rocker pattern of the different bodies to which the Springs are to be applied, and mark them off on the white side of wall paper, and also make the points at each end of the pattern where they desire to have the body loop to terminate, and forward the same, and the Springs will be made to harmonize with the shape and length of the bodies.

RECOMMENDATIONS.

REPORT OF THE N. Y. STATE AGRICULTURAL SOCIETY— SPROUT'S COMBINED CARRIAGE SPRINGS.

A valuable new arrangement—getting double the resistance and elasticity, with less expense and weight of metal. The Committee recommend it as a valuable improvement a silver medal. In the Committee's awards they have given the Society's Silver Medal to the most meritorious articles.

J. B. LANGWORTHY.
JOSEPH SLOCUM.

I have used about one thousand dollars worth of Sprout's Combined Springs, and have not heard of the least dissatisfaction, but on the contrary universal praise. I have them under my own carriages for use, and know them to be the easiest and most durable springs that can be applied. Carriages can be got up with much greater despatch, and at less expense. All that part most liable to get out of repair is covered by these springs and warranted. They vibrate freely, and their motion over rough roads is peculiarly delightful. I can truly say I know of no spring equal to them now in use.

Milton, June 13th, 1855.

I am the owner of a livery stable, and have used nearly all kinds of springs, and have found none equal to Mr. Sprout's for ease and durability. The tops of buggies keep their places much better, not

sagging sideways, and for rough roads nothing can equal them. I can save 50 per cent. in repairs by using these springs.

Milton, June 1855.
J. WILHELM.
I had a 2 horse passenger wagon supplied with elliptics, which was, owing to the roughness of the roads continually getting out of repair. I had them exchanged for a set of Mr. Sprout's, since which time I have had no trouble, often carrying double what he warranted them to do. They have been in continual hard service for over two years, and are now as good as ever. They carry one or more persons with perfect ease. I also have them under buggies in my livery stable, and find them attended with much less expense than any other Spring.

Muncy, Pa., June 1855.
We, the undersigned, have had the old elliptic taken out, and Mr. Sprout's put in place and although attended with considerable cost, yet the difference in ease and durability far exceeds the trouble and expense.

JOHN F. McLAIR, Attorney at Law, Muncy, Pa.
WM. M. RANKIN, M. D.
H. WOOD, M. D.

A short time since, as I was travelling to a neighboring county, just before me I saw a buggy with Sprout's Combined Springs, which seemed to move over the road with all ease, the wheels working into ruts, over roots and stones, at the same time the

body keeping its horizontal position, while that of my own tossed me from side to side, rendering it extremely difficult to retain my seat. I sold my buggy the first opportunity, and purchased one with Sprout's Combined Springs, and now I have the pleasure of riding as easy as my neighbors.

Hughesville, Pa., June 13, 1855.
RUSSEL BODINE.
I have a buggy and sulky with Sprout's Combined Carriage Springs, which I have used two years. In my opinion they exceed any thing of the kind ever offered to the public. Persons who consult ease, after having used these Springs, can never be persuaded back to the old elliptics.

Hughesville, Pa., June 13, 1855.
JOHN H. ROTHROCK, M. D.
TERMS:
All orders must be accompanied with the money to secure immediate attention, and directed (either by mail or express) to SPROUT, BURROWS, & CO., Hughesville, Lycoming Co., Pa., or their agent, ISAAC L. HUNT, No. 215, Pearl St., N. Y. City.

CAUTION.
Springs of an inferior quality have been manufactured and sold by persons without authority. This is to caution the purchaser as well as the vender, against such infringement, as they will be dealt with according to law.
SPROUT, BURROWS & CO., Proprietors.

THE COACH-MAKERS' MAGAZINE.

Newark, N. J. Advertisements. CARRIAGE TRIMMINGS.

GEORGE ROWDEN,
MANUFACTURER of Coach Tassels, Speaking Trumpets, Footman Holders, Tassels, Curtain Braids, Spring, Curtain and Frigger Tassels, Inside Plain and Fancy Tassels, Ball Tufts, Netting Cord, Hammer Cloth Fringes, Webbing, Hecarse Fringes and Tassels, also Hecarse Nets for Horses.

P. S.—Also, manufacturer of Flexible Tubing for Portable Lamps, handsomely braided. The flexible tubing for portable gas lights will admit of the light being changed to any part of the room in which it is used.

G. ROWDEN,
90, Railroad Avenue, Newark, N. J.

Feb-1855.

Wm. Wright & Co.,
MANUFACTURERS OF EVERY VARIETY OF
Railroad & Carriage Springs.
FROM THE BEST ENGLISH STEEL,
AND OF SUPERIOR FINISH.
Opposite Chestnut Railroad Depot.
NEWARK, N. J.

Orders solicited and promptly executed.
Prize Medal awarded at the Crystal Palace,
New York. [March-15]

T. B. AUSTIN, L. A. CARY, A. STIVERS.
AUSTIN, CARY & CO.,
MANUFACTURERS OF
Coach, Engine and Signal Lamps,
AND SILVER PLATERS,
No. 12, Mechanic St.,
NEWARK, N. J.

CONSTANTLY ON HAND, A LARGE ASSORTMENT of Coach and Buggy Lamps of the latest and most approved styles. Also, Dashes, Railings, Hub Bands, Pole Hooks, Branch Irons, Coach Door Locks and Catches, Curtain Frames, Spring Barrels, Carriage and Cartel Mouldings, Coach and Harness Ornaments, &c., &c., at Wholesale and Retail.

Feb-1855.

C. N. LOCKWOOD,
(Late Eagles & Lockwood,)
COACH LAMP MANUFACTURER,
AND SILVER PLATER,
16, MECHANIC ST.,
NEWARK, N. J.

THE LARGEST ASSORTMENT IN THE UNITED STATES, embracing over 100 different sizes and patterns of Coach and Buggy Lamps.

Engine and Signal Lamps, Coach and Cartel Mouldings, Curtain Frames, Dashes, Railings, Branch Irons, Handles, Pole Hooks, Tuft Nails, &c., &c., constantly on hand, at Wholesale and Retail.
[Feb 1855.]

NEWARK COACH-HUB MANUFACTORY.
The largest Establishment of the kind in the United States.

Keep constantly on hand a stock of from 20,000 to 40,000 sets of
MORTICED HUBS,
From 24 to 29 inches in diameter.

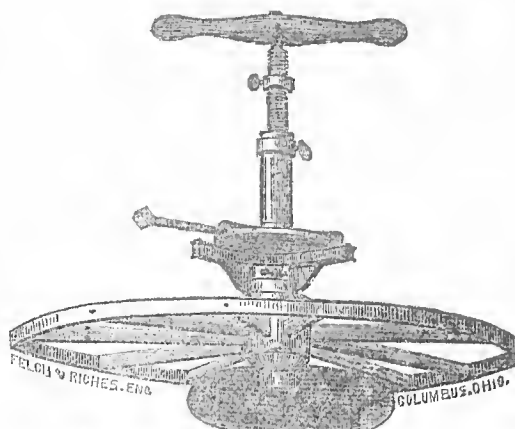
For Heavy Wagons, Omnibuses, Coaches, Rockaway Buggies, &c. &c.

REAR OF WASHINGTON HALL,
Broad Street, Newark, N. J.
Wm. Miles.

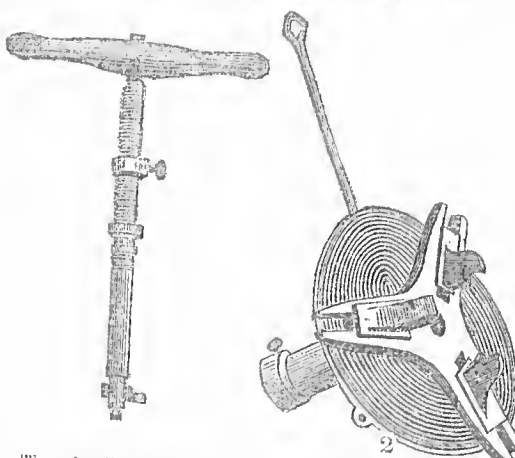
July 1855.
THE NEWARK SADDLERY & COACH HARDWARE COMPANY,
311 Broad Street, Newark, N. J.,

Have constantly on hand a large assortment of SADDLERY HARDWARE & COACH TRIMMINGS, consisting of Harness, Tassels, Hooks, Buckles, Straps, Girths, Drawings, Collars, &c., &c. Patent Leather at manufacturer's prices.
July 1855. E. C. DODD, Agent.

Dole's Patent Self-Centering Hub-Boring Machine.



PATENTED JULY 25th, 1854.



The subscribers respectfully call the attention of Carriage and Wagon Makers to this celebrated and highly important improvement in machines for boring hubs and setting boxes; which is represented by the above engravings. To enable persons to see at a description of this machine, over all others, a part of the description accompanying the letters patent, is given below:

"The nature of said invention consists, 1st. In the employment of a self-centering lathe chuck, consisting of a scroll screw, and sliding holding jaws, as fig. 2, which is a bottom view of the machine, in combination with a mandrel or screw, passing through the center, (as fig. 3,) and having a center secured on its extremity for the purpose of boring hubs perfectly true; said screw being fed, while boring, by a circular nut attached to the barrel through which the screw or mandrel works. 2nd. In so constructing and arranging the feednut and combining it with a gauge plate arranged on the mandrel, that it will be caused to adjust itself at the moment the shoulder of the hub has been cut off the required depth, and then be capable of turning with the screw, and allowing the center to square off the shoulder."

The superiority of this machine consists in its being self-centering, easily adjusted, simple in construction, not liable to get out of order, being applicable to hubs of all sizes, and all kinds of boxes, while the time and labor consumed in setting the boxes, is one-half less than with any other machine now in use, and its cheapness places it within the reach of all.

To supply the great and constantly increasing demand for these justly celebrated machines, the subscribers have fitted up at a great expense an establishment, expressly for their manufacture in the town of Salem, Columbiana county, Ohio, where they are now prepared to fill all orders on short notice. As they use nothing but the best of material, and the machines are all manufactured under their immediate supervision, those who may favor them with orders can depend upon getting good articles.

The want of a machine for boring hubs and setting boxes perfectly true, and with little labor, has always been felt by Carriage and Wagon makers, and many machines for this purpose have been invented, all of which have proved failures. Dole's patent supplies this deficiency. It is utterly impossible for any person with one of these machines, to set boxes otherwise than true.

The facilities for transportation are such that machines can be sent to any part of the United States at a trifling expense; the weight, including box, &c., being only about eighteen pounds.

Price of the Machine, \$15 00.
Any person remitting \$15, by mail, will have the machine, complete, forwarded to them, with as little delay as possible. Persons wishing to purchase the right to manufacture them in any county or State, can obtain further information by addressing the subscribers.

A. R. SILVER, Special partner, }
L. A. DOLE, Patentee. }
[Jan 1855.]

JOHN WATSON. JONATHAN CLARK.
SILVER & DOLE,
Salem, Columbiana Co., O.

WATSON & CLARK,
IMPORTERS AND WHOLESALE DEALERS IN
Saddlery Hardware,
COACH GOODS, AND LEATHER
OF ALL KINDS.
No. 480 Main st., between Fourth and Fifth,
Louisville, Ky. [Jan 1855]

SELLECK'S PATENT GIG SADDLES & TREES.



THE SUBSCRIBER RESPECTFULLY CALLS THE ATTENTION of Saddlers and dealers to his New and valuable improvement in Gig Saddle Trees, which for beauty and strength are not surpassed by any in the market. By the use of these trees the subscriber is enabled to furnish a first class gig saddle at less cost than heretofore. Also, by a proper division of labor in the manufacture of Gig Saddles only, he is prepared to fill all orders in a superior style.

To be had of the Wholesale Saddlery Hardware Merchants in all the cities of the Union, or wholesale of the subscriber No. 253 Pearl Street, New York. [Aug. 1855.]

Robert Selleck
PATENTEE.

TO COACH-MAKERS.

THE SUBSCRIBER WOULD RESPECTFULLY INFORM YOU that he has had twenty-five years' experience upon carriage parts in several of the best coach factories in the State; and that in compliance with the solicitations of a number of his former employers, he has taken a shop on the corner of Chapel and Franklin streets, in New Haven, where he will manufacture to order from the best of timber and workmanship, and at satisfactory prices, crane neck C springs, Coach, Coachee, Balance, Long Shaft, Tilbury, and every variety of heavy and light carriage parts.

Particular attention will be paid to drafting and getting up patterns to suit any desired style of body.

Also, Pump Handles, Brakes, Blocks, Bars, and every variety of Coach Carving done with neatness and despatch, and warranted to suit the most fastidious. Please give us a call.

J. L. MONSON,
Coach Carver and Carriage Part Maker, corner of Chapel and Franklin sts. New Haven, Ct.
Aug. 1855.

P. HAYDEN,
MANUFACTURER OF
SADDLERY & COACH HARDWARE,
COACH LACE, AXLES, MALLEABLE
IRON CASTINGS,
Wrought Iron & Wire, all Sizes,
SADDLE TREES & HAMES.
Warehouse, No. 2, Buckeye Block,
COLUMBUS, OHIO.

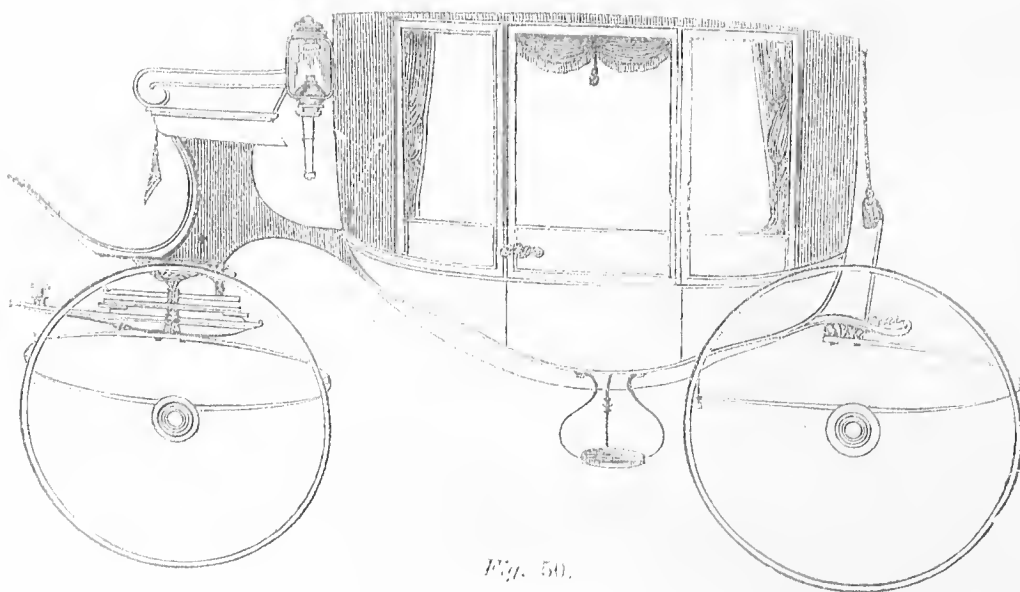
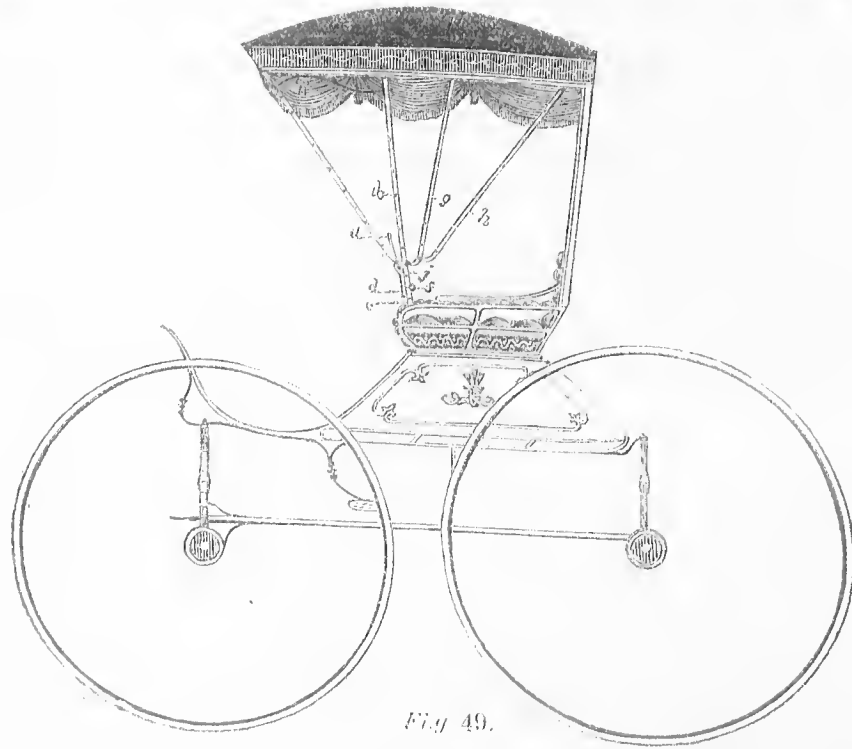
A large stock of all kinds of Carriage Trimmings constantly on hand. Also, Nails, Steel, Elliptic Springs, &c.
March-15

M. BLANCHARD. [S. N. BROWN.]
BLANCHARD & BROWN,
MANUFACTURERS OF
WHEELS, TURNED SPOKES, TURNED HUBS, BENT FELLOES, BENT BOXES, BENT POLES, BENT SHAFTS, WAGON FELLOES, WAGON BOXES, WAGON SPOKES, WAGON HUBS, FLOW BEAMS, &c.
FACTORY ON CANAL, COR. FOURTH & KENTON STS.,
DAYTON, O.

BOTH MEMBERS OF OUR FIRM BEING PRACTICAL Carriage-Makers, enables us to select our materials and manufacture the articles offered by us in such a manner as to insure satisfaction to purchasers.
All orders filled up on as favorable terms as at any other establishment.
[April 1855.]

PLATE XIX.

SALADIN'S MAGAZINE



NEW YORK, OCTOBER, 1855.

PLATE XX.

BROWN'S PATENT SLIDING SEAT.

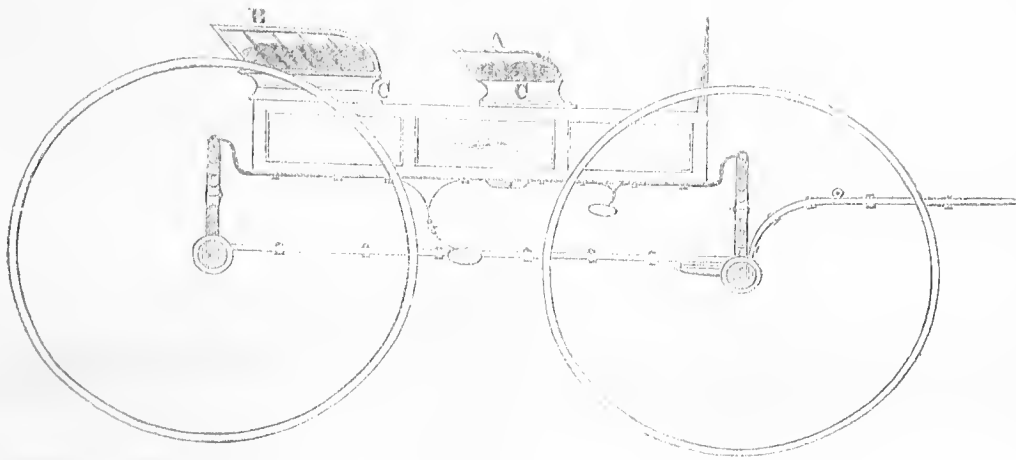


Fig. 51.

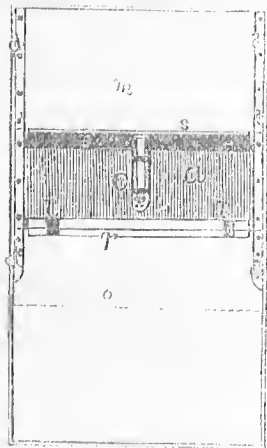


Fig. 52.

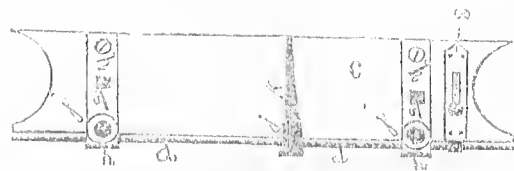


Fig. 53.

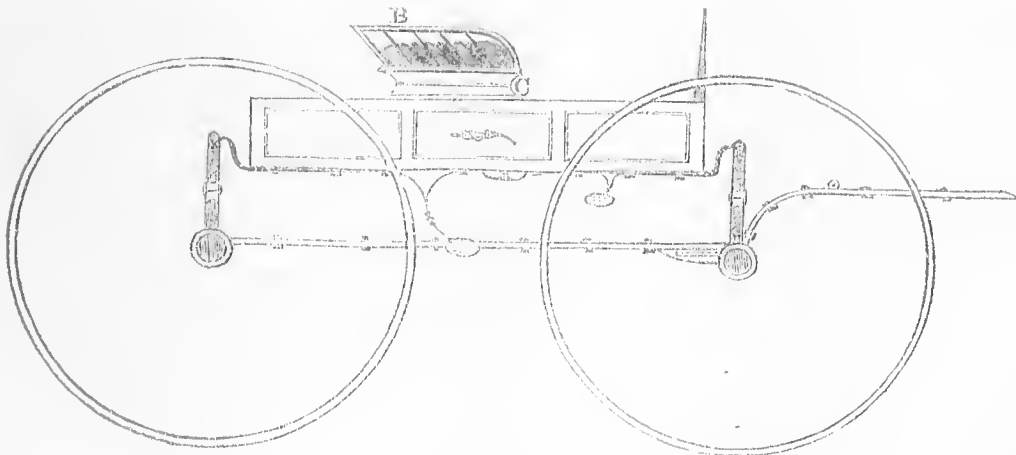


Fig. 54.

C. W. SALADEE,

EDITOR and PROPRIETOR.

THE COACH-MAKERS' MAGAZINE.



VOLUME I.]

NEW YORK, OCTOBER, 1855.

[NUMBER 10.

TERMS:

Single subscription	one year	-	\$3 00
Clubs of three	"	-	8 00
" " six	"	-	15 00
" " ten	"	-	20 00

Payable Payable in advance.
All Clubs, however, must be sent to one address.
Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented stamped on the cover in gilt letters. All communications must be addressed to the Editor, at his residence, Columbus, Ohio.

Office of the Coach Makers' Magazine,
 New York, 106 Elizabeth St. E. M. STRATTEN,
 Assistant Editor, and Agent for N. York.

Office of the Coach Makers' Magazine,
 Columbus, 4 doors north of the American Hotel,
 High St.

EXPLANATIONS OF THE DRAFTS.

New York Fashions.
 FIGS. 49 & 50.

Fig. 49 is a light calash buggy of the most modern style in New York city. The body is a solid side with frame pannel seat. The figures in the side are represented by that style of ornamenting and lining. Mouldings are set in the side as shown in the engraving. To this buggy we have applied Messrs. Foglesong & Anderson's improvement in calash tops. "The object of my invention," (we quote from the letters patent,) "is to provide a means of spreading stitching, and folding the top of a buggy, which shall be simple in construction, more elegant in appearance, less costly, and more easily operated, than are the unsightly and inconvenient stretchers or props now in use. The object I accomplish by means of a pair of triggers like the one represented at A, pivoted to the front edges of the principle or slat iron B, a little above its hinged junction to each respective stem C. This trigger is provided at its lower extremity with a ketch pin D, which engaging within a suitable socket in the front of the stem below the hinge F, holds the principal bow B and those G H, behind it, to their opened or spread position. A spring (I) causes the ketch pin D to engage automatically within its socket the instant that the bow is brought forward to a line with the stem. All therefore that is required to be done to fix the hood permanently open, is merely to press forward the principle bow, until the ketch pin engages, and in order to lower the hood, you have only to press a hand on each trigger, and thus allow the frame to calash of its own weight. This movement can be effected without raising or turning round in the seat. A small stretcher K inside of the frame may be employed to hold forward the front bow. No other stretchers or props being required, thus effecting a saving of from three to twenty dollars in the original outlay, and greater durability of top, because the wear of quarter leather by the abrasion of the stretcher is done away with. The top has moreover a much neater appearance.

What I claim herein as new and of my invention, is the application of a ketch A, as described, or its equivalent, in front of the hinge which unites the principle bow or slat iron to the stem for the convenient stretching, &c., of a carriage or buggy top as explained, &c.

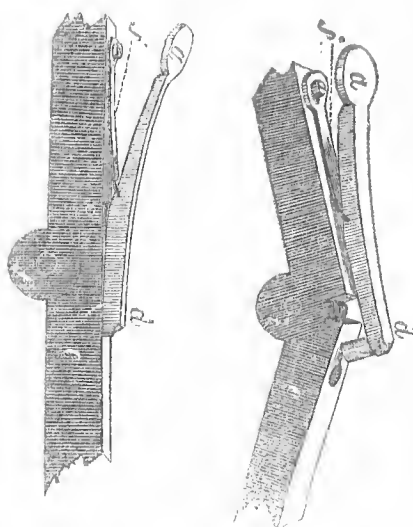


Fig. A. shows the joint with trigger (disconnected from the top,) in its closed position. Fig. B represents the same in its open position, or as it appears when the top is thrown back.

Fig. 50 is a light, close coach of the clearance denomination. There is nothing very gaudy in its general appearance. nevertheless, it is a very desirable carriage for a private family, being of that rich, but neat and modest class of vehicles which are constantly sought after by persons who possess good taste and correct judgment, as to what constitutes a neat family carriage.

The crane-neck coaches are becoming rather too general among our hackmen in all large cities. The result is, that all private families who are able to support a fine carriage for their own convenience will resort to a style, if possible, entirely different from that so prevalent among this class of men; hence few crane-neck coaches are being built for private families, but principally all for public purposes. Therefore the nobility of New York prefer the carriage here illustrated or those similar to it.

FIGS. 51, 52, 53 and 54.—BROWN'S PATENT SLIDING SEAT CARRIAGE.

According to promise in our last, we illustrate in the present No. a very desirable improvement in the arrangement of sliding seat carriages, of which Mr. R. H. Brown, of Cleveland, Ohio, is the inventor.

Fig. 51 is a side elevation of the carriage as it appears when assuming the character of a two seat vehicle. Fig. 52 represents the same carriage as it appears with one seat; the revolving seat A being turned down into the body, and the

sliding seat B brought forward to its present position.

This buggy is after the fashion of the ordinary box body now so fashionable throughout portions of the eastern countries, though the style of the body is by no means limited to this pattern.

Fig. 53 is a top view of the body with the revolving seat A thrown back into its intended location, in case only one seat is used, the sliding seat being detached. Thus showing the entire arrangement of its mode of construction and operation. The seat A is attached to the bar R by means of two hinges L L, and is permanently held in its present position by the sliding bolt H which latter takes hold of petition or bar S. The space F is the opening between the edge of the seat and bar S. The dotted line O illustrates the point where the front edge of the revolving seat A will rest when thrown up. D D D D are the flat irons on which the sliding seat is governed, by means of hook irons H H (Fig. 54) and friction rollers J J, which are attached to H H. These friction rollers J J rest on the aforesaid flat irons D D, and the back seat is secured in its desired location by means of the spring ketches G C. Fig. 54 represents the bearer on which the seat rests, as shown by the same, (letter C in the side elevation.) Now, supposing the seat to be at the back extremity of the body, and we wish to move it forward. First, we turn down the revolving seat A as shown in Fig. 53, and raise the spring ketch G on both sides of the seat and draw the latter forward, which will roll in place of slide or drag as in the old way, resting on the friction rollers above described, by which means it is caused to work with such ease that a child may alter the position of the seats, and when drawn forward to its intended position the spring ketches G will drop into the offset of the iron D D, immediately in front of bar R, and thus hold the seat in this position as before. The friction rollers are held down on the irons D D D D by means of the hook turned on lower extremities of the irons H H, which take hold of irons D D D D on the under side, while the friction rollers J J (which have a flange on one side, same as that on a railroad car wheel, to study its progress on the iron) are on the top; thus the hooks before mentioned hold the seat down to the irons D D D D and the flange on the friction rollers keeps the seat steady and causes it to move with the greatest ease and convenience imaginable. K Fig. 54 represents the iron H with friction roller J attached to it edgewise; also, the hook at the foot of the iron above mentioned. Those irons are secured to the seat bearer C by means of one bolt P and one wood screw, as shown in the illustration.

This body is extremely light, strong and roomy; and moreover, when it assumes the character of a one seat carriage, none but the closest observers can detect the revolving seat, which is not the case with any slide body ever before constructed.

The Coach-Makers' Magazine.

OCTOBER, 1855.

NEW YORK FASHIONS.

New York, the great metropolis of America, the centre of all attraction this side of the deep, and the fountain head of fashion. To this point every eye is turned with an eager expression to behold the latest fashions of the day. *What are the latest styles in New York?* is the common question with the American people. It seems of the utmost importance to know how the good people of New York are dressed, how they live, how they walk, how they converse, and how they ride, and if so be that we can imitate them correctly we are accomplished men and women. The modern lady, when ordering the dress, or the bonnet, is very certain to put the all important question, *What are the New York fashions?* She is informed,—no matter how ridiculous the cut, she is pleased, and orders her garments made accordingly. The modern gentleman has likewise the same question to ask on entering the shop of the merchant tailor; in reply, he is very politely informed that the latest New York style of coat is with waist exactly six inches from the collar, tail precisely one inch and three-quarters from the ground. He is delighted with the exquisite beauty of the cut, and in a few days, lo and behold, the coat is being exhibited on the streets. Every body admires it, and why? Because it is the *New York style*; and in a few days more the town is full of long tailed coats and tight breeches. The cabinet maker, the shoemaker, and if we mistake not very much, the carriage maker has frequently been asked the soul-saving question, *What are the New York fashions?* And in order to retain his customer has been compelled to conform with a style of work most repugnant to his own feelings, and unsightly in its appearance, but no matter, its New York style, and everybody must admire it. Indeed the motto seems to be *New York Fashions*, or none at all, and among the many fools who have subscribed to it (and we blush to say it,) there are some of our fellow craftsmen.

Within the last two months we have received several communications from the South and West, complaining that we do not illustrate New York styles of carriages to a greater extent than we have done, asserting that it is the great centre of fashion, and as our Magazine purports being published there, why not make it a point to give us *New York styles altogether*.

Those friendly communications are certainly a great compliment to our fraternity at large, as much as to say, all the genius of coach-making is within the limits of New York city, and that out of the pale of the great metropolis there are no scientific workmen or designers of carriages to be found. That in New York remain the only giants of the trade, who are the leaders of the craft, and those around them

their subjects, who are wholly dependent upon them for the little knowledge they have, or may ever after expect to acquire.

Now that New York is a great place, who will deny? That it contains some of the best coach-makers in America is a matter we are far from disputing, and that some of the most scientific draftsmen in our ranks are here to be found is also a fact that will not admit of controversy. But we have yet to learn from any reliable source, that the same is not true of Bridgeport, New Haven, Philadelphia, Cincinnati, Chicago, St. Louis, and indeed many of the small villages throughout New England and the great West. Then must we conform to that degrading practice, which would limit the contents of our fashion plates to a style of carriage peculiar to any one city. Far from it; and shame on the head of those who dare insist upon the establishment of a principle so mean and degrading in its tendencies. A good design for a carriage deserves merit, place and mention in our Magazine, no matter whether its originator is a resident of New York, London, Paris, or of some retired village of New England or the far West, and so long as we hold our present position it shall always receive it. To those who have threatened to withdraw their patronage by reason of this course on our part, we have only to say, that nothing could afford us greater pleasure than to cross their names from our list.

In the present number we have illustrated according to promise, New York Fashions of the latest stamp. They are handsome carriages, and generally good designs. However, they do not present to us anything really new, still they are a fair sample of the newest designs of this class of work that we are able to find in New York at the present time. However, we have some other designs furnished us by one of our city draftsmen, which will appear if possible in our next; One is a light four passenger Rockaway, which is certainly a beautiful design.

THE TIMES.

In the February No. of the Magazine we published an article under this head, in which we spoke of the pressing times among the manufacturers generally, but more particularly among coach-makers. We showed the serious disadvantages our brother craftsmen must necessarily labor under, over and above that of other mechanics, when times assume such a close position as they have for more than a year past. Disaster followed disaster—*fail* was the word. The crops had failed, the rains failed, the banks failed, and some of our business men failed. Only the tax gatherer failed not, and many of the proprietors in our fraternity, (as well as those of other branches,) lost nearly all confidence in the future, and began to talk of closing business, and seeking homes elsewhere, perhaps in the far West, where they erroneously imagined times were brighter and more promising. The earth had refused its bounty, and a tremendous winter found many a good mechanic with-

out employment, many of our factories were silent, in company with a number of others in the various mechanical branches; in short, it was a time that tried the souls and substance of coach-makers most thoroughly. However, we were inclined to look into the future, thick with gloom as it was, and fancied that we could see beyond the dismal clouds a kindling brightness that promised better times—times that would cast a brighter sky over every department of the industrial arts. And now that those times are at hand, we cannot but pause for a moment to speak of them.

Providence has this season smiled upon the people of this country, and favored them with an enormous accession of wealth. The yield of the earth has been great beyond all example. The summer has been wonderfully propitious, and stimulated by the high prices of grain, the farmers have made extraordinary efforts, and there are but few of them who have not this year cultivated an unusual number of acres, and exerted themselves with unprecedented vigor. Bits of new ground have been broken up, swampy places have been subsoiled, and a general determination manifested to make every inch of soil count in the great sum of capital already in hand,—and the giver of all good sent the rains, the sunshine, and the genial airs in good time, so that the labors of the tillers of the ground are most abundantly rewarded.

We do not know of a single failure among the grains or fruits. All the wild and domestic are plenteous; the orchards, vineyards and gardens are prodigal with fruits and vegetables. The meadows have been richly covered with luxuriant grass, which has been gathered into mammoth stacks. The potatoe fields are mines of food. The corn, though kept back by the late spring and cold rains, overtops the fences, and is almost ready to gladden the heart of the husbandman with an abundant harvest of full ripe ears. The wheat and oats have been gathered, whose lofty stacks form a prominent and pleasing feature in every landscape. While in the valley the roaring of the threshing machines are being heard, the mills that stand along the thousand sparkling rivers of our happy land, are being filled with the golden yieldings of the fields, while at the same time all the channels of commerce are being swollen and quickened with the Niagara rush of the new grain to reach the market. The farmers will be rich with the proceeds of their great harvest; they will send their proceeds to the mills and cities, thus adding hundreds of millions to the substantial wealth of the country, and the cash received will produce an easy sensation in their pockets, which will call for an infinity of nice things, for home consumption. They will buy new clothes for their children, fine furniture for their houses, new implements for their labor, and what is better than all, carriages to ride in, new harness for their horses; they will purchase choice books, subscribe liberally for newspapers, send their

sons and daughters to good schools, take stock in public improvements, and thus enliven every branch of business, strengthen and quicken the sinews of war, infuse new life in the veins of peace, make an end to *hard times*, and inaugurate the era that has until recently seemed vague and unsearchable as the kingdom of *Eldorado*—the era of *good times*.

Inspired by such magnificent harvests as are now being gathered, the country will be prosperous and happy, and the cities will increase in wealth and population, and all the elements of grandeur and strength, in spite of oppressive legislation, of wholesale swindles, and a general mal-administration of public affairs; legislators cannot suck the fat out of the soil, nor the blood out of the veins of the tillers, therefore they cannot frame laws to make the great bank of nature a swindling concern, or forbid small grain as they do small notes in certain boundaries. The farmers made deposits in their great bank last autumn and spring, cast seed broadly over the bosom of the earth, and now they have gathered, or are gathering, the increase. No failure to pay deposits this time, but each one finds his invested capital multiplied ten fold and more. The country is emphatically safe. The union savers in this case are those who have ploughed sown and reaped. It is a glorious thing to have it so plainly displayed and understood, that the prosperity of the country does not depend so much on its politicians, on its law-makers, its speculators, its traders, as upon its *working men*, its producers; that though there may be seasons of misfortune and depression, the glory and opulence of the country is sure and steadfast, while the heavens are propitious, while the hills stand, the valleys smile, and the rivers flow. Then let us take new courage, and go on our way rejoicing.

ANOTHER CARRIAGE COUPLING IN THE FIELD.

On the 28th day of August last, a patent was granted to J. L. Ciscoe, of Xenia, Ohio, for a new carriage coupling, which is intended to accomplish the same object as that of Everett's & Haussknecht's, also at the same time obviate all the difficulties attending the use of the two improvements just mentioned.

We chanced to see a model of this improvement a few days since, and were very much pleased with its operations and apparent simplicity of construction; still we did not have time to give it as thorough an examination as we should liked to have done. However we observed one desirable principle in its operations, which no inventor has ever before discovered in the construction of this denomination of carriage couplings, and one that obviates the greatest evil we have heard urged against the use of the Everett coupling, viz: The end of the perch (to the Everett coupling,) being moved from the centre of the fore axle, we loose, to a greater or

less extent, the control of the carriage, according to the distance the coupling bolt is placed back upon the perch or reach; the farther back the less control of the whole carriage, save the front wheels and axles. Supposing we place the coupling bolt directly in the centre of the perch, between the two axles, and allow the wheels to fall into a rut or deep wagon track, now so long as we do not wish to turn either to the right or left out of this rut, no inconvenience or imperfection in this arrangement would be perceptible; but the moment we attempt to turn out of it, it will be observed that the fore wheels raise out with perfect ease, but the perch being thrown off from the centre of the front axle to nearly a parallel line with the rut in which the hind wheels remain,—it will be further noticed that the front end of the perch is guided on a line parallel with the hind wheels, while the front ones are going directly after the horse, or in a contrary direction to that in which the hind wheels are inclined to move, and consequently it becomes a matter next to impossible to get the hind wheels out of the rut, for the reason that the front end of the perch is pointing straight forward while the front axle is angled to either the right or left. When the Everett coupling was first introduced, this coupling bolt was put back from 24 to 27 inches, and the first buggy we drove was according to the latter measurement. But we soon observed the difficulty above described, and also that in turning round the corner of a square, while in the act of driving at a tolerable fast gait, its liabilities to upset were greatly increased owing to the weight of the front part of the carriage being so suddenly thrown off from the centre of the fore axle. We next had it shortened to 15 inches, and found it answered a much better purpose, but still there was more of a motion to the front extremity of the body than we could approve of, so a third alteration took place which brought the bolt within twelve inches of the axle, and we found that its operations were materially improved. But lately we had a buggy gotten up with Everett's coupling, the both of which was put back 10 inches, and we are convinced that no coupling of this patent should be extended more than the measurement last given; thus arranged its application to *light buggies* is very desirable, but it cannot be applied with safety to heavy work, on account of the circular movement of the front extremity of the perch from the centre of the axle, as before stated. But as we were going to remark, this moving of the perch is entirely obviated in Mr. Ciscoe's improvement; as it remains permanently connected to the centre of the front axle, by means of a perch bolt, as in all ordinary carriages, and yet the body is thrown out of the way of the wheel in the same manner as in the Everett coupling. In all probability we will give our readers an illustration of the *Ciscoe coupling* in our next number.

READY MADE WHEELS.

There are but few carriage makers who would not purchase their wheels ready made, if it were not for a want of confidence in the materials and workmanship of which they are composed. The wheel (using a coach-maker's phrase,) is the foundation of a carriage, consequently there is no part of the vehicle which should be more particularly constructed. It is also a fact, long since established, that no failure in any part of the carriage can do the reputation of its manufacturer more injury than the wheel. Though it may be remedied with very little expense; and in many instances much less than other parts of the carriage that may become slightly disarranged, yet there is no imperfection that will cause more dissatisfaction on the part of the purchaser, and positive hurt to the reputation of the factory from which it came than this, consequently it is a matter of the utmost importance that the proprietor devotes proper attention to this branch of his work.

There are hundreds who feel the force of these remarks, or we might observe, have felt it years ago, and in order to obviate evils arising from inferior wheels, have settled down into the conclusion, that the only way to obtain them of the desired quality is to make them in their own factory, and to shun those ready made for sale, with all the contempt they possess. This, however, is not wisdom under all circumstances. It is not wisdom to be governed by this principle in case we can purchase the ready made wheels at a price not beyond that which they cost us in making them from the rough ourselves, and thus save all the trouble required to attend to the selection and seasoning of the timber and the like, if so be that we can have confidence in the manufacturer of the wheels offered us for sale.

It is wisdom, however, for the coach-maker to purchase his wheels ready made, when he is satisfied that they are composed of the required quality of timber and workmanship. For he can certainly not make them cheaper than those who make a business of it, and have every facility imaginable to execute the work with the greatest velocity possible. Under these circumstances we repeat, it is prudent to buy wheels ready made, for we do away with a good deal of consumed time and trouble in attending to the collection of proper material for their construction, &c. And yet of all blunders the most erroneous to the coach-makers, is to pursue the above course, for no better reason than that he saves a dollar or two on each carriage he turns out, without paying due regard to the reputation of the factory from which he gets them—whether they work good or bad timber—experienced workmen or boys—or whether those who have used their productions pronounce them good or evil, and utter carelessness to the performance of this duty, on the part of the carriage maker may not result so much in his favor after all; still he may observe the flames before the fire of scandal has done him much damage.

This article was suggested on the receipt of a number of letters from our subscribers in various parts of the union, inquiring what was our opinion of buying ready made wheels, if favorable, where can they be furnished with the right kind of wheels.

In answer to the letters in question, we can only speak from a practical knowledge, and in that case we must heartily recommend the craft to Royer, Simonton & Co., of Cincinnati, Ohio. We are personally acquainted with the whole company, and know them to be practical men, and men, too, who would be far from offering to our fraternity an article in their line of an inferior quality. They prize the reputation they have so honorably won too highly for such a degradation. We are convinced that these remarks would be equally applicable to other wheel makers in this country, but we cannot speak of them from a practical knowledge of their work. We have thoroughly tested, and are now running a light buggy and sulky with their wheels, and are confident that no better can be procured than those made by Royer, Simonton & Co.

PAINTING.—NO. 5.

In our last we got the body so far advanced as to receive the color we intended to have. Most colors for bodies are prepared as Receipt No. 6, except light colors, to which a little oil or copal varnish is added. The number of coats in color you apply to the body, depends altogether upon the kind of paint it is, and the manner the work is designed to be finished. If black, the work should have three coats of dead color; light colors in some cases require even more. However, if the work is of the ordinary kind, a lighter body of paint will answer the purpose.

When preparing any color (except black) for a body that is to be polished, some painters contend that a sufficient quantity should be prepared at one and the same time to answer for the number of coats you intend to apply, for it is supposed a matter almost impossible to mix any color (composed of different paints) at two different times, and impart to them precisely the same shade, consequently when different mixtures are applied to the body, it frequently happens when cutting down the varnish (hereafter applied,) that you cut through the last coats applied, and those under the latter being of either a lighter or darker shade will show very distinctly after the work has been polished, and therefore the painting when complete, will appear streaked. This is wholly attributed to the different mixtures of the paints applied, as above described. However, those remarks have only reference to that class of work which is designed to be polished.

When the color has been laid upon the work, the next step is to apply one coat of clear varnish. As to the kind or quality of varnish which should be applied, depends also upon the class of work being painted. The varnishes used by coach-painters at the present time are Copal,

Coach, and English body Varnish. The latter is being almost universally employed for the best classes of work, and also for the last or finishing coat on the more ordinary class of carriages.

A writer of the Scientific American, (purporting to be a resident of Platte City, Mo.,) has of late taken particular pains to place himself before the readers of that very popular mechanics' journal, in the character of a scientific coach painter, and volunteered to give the public and especially the artists of that said profession a clear definition of the term varnish. The fraternity of coach painters are informed from this elevated source that copal varnish is coach varnish, or *visa versa*, which is as much as to say black is white or white is black. After giving further directions for painting carriages, such as cutting down the paint, filling of bodies with sand paper, and that of rubbing off the varnish with a coarse linen cloth, &c., he concludes by reminding coach-painters that they should learn the qualities and nature of all articles used in paints and varnishes. Not being a house painter, we found ourself unable to comprehend the utility of such directions in coach painting, and consequently took occasion to notice it through the columns of the same journal, which we copy below.

(For the Scientific American.)

COACH PAINTING.—It is by no means a bone of contention that prompts us to pen the present communication, to meet the almost countless number of eyes which weekly peruse the contents of your highly popular journal, but a desire to correct, with friendly feeling, a most novel error, found on page 250 Scientific American, of which A. W. H., of Platte City, Mo., is the author.

Every varnish manufacturer in the Union will agree with us in the assertion that copal and coach varnish are not the same thing, being in part composed of entirely different materials. There is still another kind of varnish used in coach painting, called "body varnish," which also differs from the two former.

But what we wish to notice more particularly is the following direction for painting coach bodies, which we quote from the article above referred to:

"For filling or priming carriage or buggy bodies, grind yellow ochre with linseed oil quite stiff, add drier in proportion, about half a pint to a gallon of paint; thin with turpentine, or use oil well boiled with a quarter of a pound of litharge to the gallon, and use no other drier. Put on three coats of this paint, giving time to dry hard, and sand-paper well between the coats. When thoroughly dry and hard, rub down with pulverized pumice stone and water; use a piece of wool hat or thick cloth for rubbing. Then put on three coats of copal (best coach) varnish, rubbing down between the coats with a coarse linen cloth," &c. &c.

As A. W. H. is desirous of having coach painters to comprehend the general principles of the art, we would most respectfully submit the following to his careful consideration:

PAINT FILLING FOR CARRIAGE BODIES.—Take 1 lb. yellow ochre, 2 oz. white lead, 2-3 teacupful of drier, half a teacupful of copal varnish, 2 table-spoonful of boiled linseed oil. Reduce with spirits of turpentine to the thickness of cream, when it is run through the mill, and

is then ready for applying to the body. This paint in all cases is applied to the work in as thick and heavy a state as to make it work, never thinner than the thickness above mentioned; after the body has been puttied up, and received two coats of lead paint, mixed as follows: to 1 lb. white lead add half an oz. lamp-black, two-thirds of a teacupful of drier, half a teacupful of boiled oil, and reduce with turpentine,—it is ready for the application of the paint filling.

However, it is considered proper by most painters to sand-paper each coat of lead paint when thoroughly dry. But in no case is the paint filling thus treated. In applying this latter paint, the body should stand at least 24 hours between coats; from two to five coats are required, according to the grain of the wood to which it is applied; when sufficiently hard, rub down with pumice stone and water. To accomplish this, take a small piece of pumice stone, with a flat surface ground upon it; this hold in the right hand, and in the left a sponge filled with water, the water being permitted to flow upon the parts you are rubbing with the stone. Thus a perfectly smooth and level surface is cut upon the body. This done, the work is cleaned off, and when dry, a thin coat of lead paint is then applied, which latter being smoothly rubbed down with fine sand paper, the body is ready for the color. This applied, the next step in order is the application of the varnish, which is afterwards rubbed down with pulverized pumice stone and water; and if a polish is desired, this latter process is followed with rotten stone and water, cleaned off with a fine piece of buckskin, and finished by rubbing the surface well with a fine article of sweet oil.

We would here remark, that by attempting to rub down the paint filling with pulverized pumice stone and cloth, it would be found that the desired effect could not be attained, as it would simply smooth the surface, but not cut it down and make it level.

Pulverized pumice stone is never used by experienced painters for any other purpose than for cutting down the varnish. Again, coach painters, never use a coarse linen cloth for rubbing off the varnish, as that will scratch the painting.

Persons should indeed, (using the concluding expression of A. W. H.) "learn the qualities and nature of all the articles used in paints and varnishes, in order to do good work;" and we may add, that it is of equal importance that they perfectly understand the proper manner of applying the same.

EDITOR COACHMAKERS' MAGAZINE.

In August last, the following appeared in answer to the above:

COACH PAINTING.

MESSRS. EDITORS.—The Editor of the Coach Makers' Magazine, on page 310, Scientific American, undertakes to correct a "novel error" of mine in a friendly manner. I still hold that coach and body varnish are copal varnishes; there are various qualities of copal varnish used for various purposes, made to suit by the addition of more or less oil, gum, or rosin, to increase the lustre, dry harder or quicker, or to make it tougher or to cheapen it. And so far as I know, the coach varnish is the purest and best copal varnish used. If it is not so, and the Editor wishes to correct my "novel error," he must tell of what it is made. I did not give my recipe for making varnish as the best or only way, but will venture that he cannot give a rec-

pe more easily followed to answer better for every purpose. The filling for bodies submitted to my consideration is good, and well known, among coach and carriage painters; so with his rubbing down and finishing; and as my article was intended for such as were not themselves, and could not obtain experienced workmen, they can try both, and if they are benefitted my object is attained. I think the Editor of the Coachmakers' Magazine overlooked one very material feature in my plan for painting, viz: filling and varnishing; as but little cutting down and leveling with pumice-stone, will be found necessary. I would still advise the use of the coarse linen cloth, as I know it to be good, and there is not much danger of scratching the painting by rubbing the varnish.

A. W. H.

Platte City, Mo., Aug., 1855.

"And so far as I know, the coach varnish is the purest and best copal varnish used."

Now, we freely admit that so far as this painter has the means of knowing, copal, coach, and body varnish are all one and the same thing, differing only in the addition and omission of rosin and the like. But until he can convince us that he knows more than the whole fraternity of experienced coach painters, and also the superintendents of the Queen City and other varnish companies who are extensively engaged in the manufacture of these different varnishes, our conversion to his views will remain a hopeless task, for the class of individuals just referred to know (from a practical knowledge) that the three varnishes named differ materially from each other, being (as we before stated) composed in part of different materials. That gum copal is used in all of the above we do not dispute. If this gentleman will order from any of the noted varnish establishments a portion of the best copal varnish used, and an equal quantity of the best coach varnish, he will find to his astonishment (by comparing the two together) that his knowledge of the subject upon which he writes so knowingly is extremely limited.

It is said that the blind cannot lead the blind; it is therefore an exhibition of great courage to see the former attempt to lead those who can see. The other important item which we are accused of overlooking in the above communication, is too ridiculous to require the least notice from us. For of itself it furnishes the required evidence by which to demonstrate the fact that house painting and coach painting are two different professions.

But to return to our subject. We would remark, that when the varnish (first coat) has become hard you will proceed to rub it off slightly with pulverized pumice-stone and water. This stone is first ground on the paint stone by means of the muller, perfectly fine. It is then placed on a piece of tin, glass, or in some small vessel; one part of a blacking box well cleaned, answers a very good purpose, when it is ready for use.

☛ Ciscoe's Carriage Coupling, (referred to in another part of this No.) will be illustrated in our next issue. The patentee has just completed an arrangement to that effect.

SLIDING PANNEL KNIFE.



A drawing similar to the above was contributed to the Magazine by Mr. Morrow of N. J., but in place of the knife (B) being attached to the arm A A, by means of square holes for the reception of B, which latter is held to its place by a thumb screw. We make the arm A A of $\frac{1}{2}$ or $\frac{3}{4}$ round iron, well finished, and so construct knife (B) that it is moveable on the arm A A, and will slide along on the latter in either direction desired, and is permanently secured at any point on the arm by means of the screw, (C) which is $\frac{1}{2}$ or $\frac{1}{4}$ inch, with a round or eight square head one inch in diameter, through which a $\frac{1}{4}$ inch hole is drilled, into which can be inserted a short rod, by which means the screw is turned and the knife B is made fast.

Since solid side work on bodies has become so prevalent in all parts of the country, upon which mouldings must necessarily be cut, many experiments have been made for the purpose of contriving the best possible implements for this tedious work. The first that was established for cutting away the wood on the side pannels between the mouldings, was a knife similar to the above. The knife was forged solid to the arm, on the centre between the two handles; to some the blade or knife was entirely different from this in its construction, but they were all permanently located in the centre between the handles. Well as this pannel knife worked, one serious imperfection became apparent, and that was in cutting away the wood between the mouldings on wide pannels, as in the case of Phaeton bodies and the like, for as the workman began to cut close to the moulding on either one side or the other of the pannel the opposite hand hold of the handle would come in contact with the work, which would often result in skinned knuckles and fingers. This was obviated by making a knife expressly for the purpose, with handles very wide apart; here another difficulty presented itself. The arm being so long caused the knife to quiver and jump, and it was only with the greatest difficulty that it could be made to cut smooth, unless the arm would be made of iron so heavy as to make the tool look unsightly and bunglesome. Those experiments led to the construction of the knife illustrated by the above engraving, which answers the purpose admirably, and all the difficulties above mentioned are obviated. In cutting a wide pannel with this knife, you have only to move the blade or knife (B) either to the right or left, as the case may demand, and the hand need not come in contact with the work at all. It is very simple, yet a valuable implement for the body maker.

☛ Foreign Improvements in our next Number.

THE VARNISH TREE.

A letter has been received from a correspondent in Texas, in which he alludes to a varnish tree having been cultivated there, and says that they are ignorant of the manner of obtaining the varnish from it.

Believing the varnish tree of which he speaks to be the same as the *Rhus vanicifera* of Japan, we give the method recommended at the Patent Office, as given by Thunberge.

The very best Japan Varnish is prepared from this tree, which exists in great abundance in many parts of that country, and is likewise cultivated in many places on account of the great advantages derived from it. This varnish, which oozes out of the tree on being wounded, is procured from stems that are three years old, and is received in some proper vessel. At first it is of a lightish color, and of the consistence of cream, but grows thicker and black on being exposed to the air. It is so transparent when laid pure and unmixed on boxes, or furniture, that every vein of the wood may be seen. For the most part a dark ground is laid underneath it to reflect like a mirror, and for this purpose, recourse is frequently had to the fine sludge which is got in the trough under a gring stone, or to ground charcoal; occasionally a red substance is mixed with the varnish, and sometimes gold leaf ground very fine. This varnish hardens very much; but will not endure any blows, cracking and flying almost like glass, though it can stand boiling water without any damage. With this the Japanese varnish over the posts of their doors, and most article of furniture which are made of wood. It far exceeds the Chinese and Siamese varnish, and the best is collected about the town of Jassino. It is cleared from impurities by wringing it through very fine paper; then about a hundredth part of an oil called *toi*, which is expressed from the fruit *bignonia tomentosa*, is added to it, and being put into wooden vessels, either alone or mixed with native cinibar, or some black substance, it is sold all over Japan. The expressed oil of the seeds serves for candles. The tree is said to be equally poisonous as *rhys venenata*, or American poison tree, commonly called swamp sumack.

In our next will be illustrated some beautiful styles for trimming; also, something for the carriage ironer, in the shape of a new die plate for cutting bolts, &c.

Owing to Mr. Brown's improvement appearing in the drawing department, we are deprived of giving that variety of style this month that we otherwise should have done. Still we believe our readers will be fully satisfied with it as a substitute for other drawings which might have taken its place. As it is certainly a desirable improvement in sliding seat carriages, and one that is much sought after everywhere that it has been introduced.

ANOTHER IMPROVEMENT IN WHEELS.

Mr. J. B. Hayden, of Canada West is the inventor and patentee of an improved carriage wheel which consists in doing away entirely with the ordinary hub. The spokes all meet at the centre of the wheel, neatly fitted one to the other in wedge form, and is supported on both sides by a metallic plate or collar, through the centre of which passes the box and spindle of the axle. In appearance we have never seen a wheel more neat or delicate, and at the same time retain an equal amount of strength.

Extensive preparations are now being made for the manufacture of the wheels; one factory will be established at Cleveland, Ohio, and one at Brantford, Canada West. The firm consists of Mr. J. B. Hayden, P. G. Vanbroeklin, of Canada, and A. Hemenway, of Cleveland, Ohio. Messrs. Horden & Brown, coach makers of the latter place, are now building to our order a very fine carriage with their improved slide seat body, to which carriage a set of the above improved wheels will be applied, which will give us the opportunity of a practical investigation of their operations, &c., the result of which we will report to our readers. In the mean time it will be illustrated in the next No. of the Magazine, when it will be fully explained.

THE SPROUT SPRING.

It will be observed by referring to the advertisement of Sprout, Burrows & Co., (as it appears in this number,) that their spring is meeting with a demand beyond their most sanguine expectations. True, they calculated, from the certain knowledge they possessed of the spring, that as soon as it was thoroughly introduced, it was sure to come into general use, but they had no idea that the demand would so suddenly be increased to the extent it has already arrived.

That this spring is *all* it purports to be is, in our estimation a matter beyond the possibility of a doubt. We have been daily using a buggy and a sulky with these springs; the former has been run over 2000 miles, besides what it has run in the city, and handled in the roughest manner possible, still the springs do not exhibit the least indication of a failure. As to the sulky, there never was a spring applied so peculiarly adapted in every respect, and for ease of motion to the passenger, we think our vehicles cannot be surpassed. Those gentlemen are now about completing arrangements to erect a factory in Columbus, Ohio, for the manufacture of their spring. They desire all orders from the Western and Southern States to be directed to our office, in the latter place, where they will be promptly attended to, until further arrangements are made.

The back Nos. are now being printed, and we expect they will be completed, so that we can forward them with the next No. of the Magazine.

MUSIC BY STEAM.

We see it stated in a northern paper that an enterprising Yankee mechanic has completed an invention, by which the steam whistles attached to railroads can be made to 'discourse sweet music,' instead of the frightful screams and shrieks which now render them such abominable nuisances. Certainly a great improvement this.

For example, suppose you are a young married man, and are suddenly called to leave the endearments of home for business elsewhere.—You get into the cars in a pensive humor; the bell rings the parting tinkle; the wheels rumble slowly out of the depot; and at that moment the patent whistle strikes up "O Susannah! don't you cry for me!" Is there not something peculiarly consoling in the idea?

Further on, some foolish fellow is seen walking on the track, just ahead of the cow-catcher. Immediately he hears, "Get out of the way, ole Dan Tucker!" from the whistle, and starts from his perilous position as promptly as from the bite of a rattlesnake, and still not without being somewhat exasperated by the incident. Again, a dog is run over; the thing is inevitable; such little occurrences are always taking place on the best regulated rails; there is some consolation in hearing the whistle pipe up "Poor Dog Tray!" as a complimentary requiem. When not otherwise employed, a great variety of appropriate airs suggest themselves; the night train, for instance, as it dashes on through the dark, might soliloquize, "We won't go home till morning!"

And now the young man, supposed, has completed the business that took him from his friends, and is returning to the bosom of his family. As he nears the spot where is garnered up all his affections, and the speed of the locomotive begins to slacken, how touchingly appropriate would be the exultant air of "Home, sweet home!" whistled out with forty-horse pathos.

On great national holidays the engines could make the air, as they passed along, most patriotically vocal with "Hail, Columbia," "The Star Spangled Banner," and "Yankee Doodle;" and on Sundays, they could whistle "psalms and hymns and spiritual songs," in accordance with the solemnity of the day.

A great invention this!

NEW HARDWARE AND CARRIAGE TRIMMING HOUSE.

A few days since business called us to our neighboring city, Cleveland, where we accidentally blundered into the house of John Temis & Co., (whose advertisement appears in this No.,) and were agreeably surprised on observing how largely they were engaged in every description of coach hardware and trimmings, which they offer on terms that cannot but meet the approbation of all who may see proper to extend to them their patronage. They have just moved into their new store house, 25 Water street. It is the most complete and extensive building of the kind we have visited for many a day. Philadelphia or New York would not blush to own it.

CONTRIBUTORS TO THIS NUMBER.

G. T. MORROW, of N. J.
P. T. McBRIDE, of Cal.
H. B. LUNN, of Ohio.
FOGLESONG & ANDERSON, of Ohio.
R. A. BROWN, of Ohio.
L. THOMAS, of Pa.
W. H. SAUNDERS, of N. Y.
ABM. TERRILL, of N. J.

ANSWER TO CORRESPONDENTS.

P. P., of Miss.—The springs, perch, and all the braces constitute one set of Sprout's combined spring and coupling, so that no perch is to make, as you have supposed.

R. E. H., of Tenn.—We hardly think the improvement you propose in the Everett coupling, will perform as well as you contemplate; neither do we see how you will gain anything by placing the joint or pivot bolt in front of the fore axle.

C. W. D., of Mich.—The wheels made at the factory of Messrs. Royer, Shumton & Co., Cincinnati, Ohio, we most heartily recommend. We are now using them to vehicles of our own, and are well satisfied that no better wheel can be produced. Messrs. Blake & Williams, of Columbus, are using a great quantity of them, and in every instance they have rendered entire satisfaction. You will receive further information by letter addressed to the proprietors as above.

J. W. G., of Ohio.—We have not as yet seen the top you refer to practically tested, consequently we can not give you the required information.

B. T. & Co., of St. Louis, Mo.—We are informed that the improved wheel illustrated in the August No. of the Magazine, is now being manufactured in Brooklyn, New York, for sale. At all events they can be purchased ready made in a short time, as extensive preparations are being made to furnish them to the craft. The price, as to this we are not as yet informed.

S. S. S., of Ind.—We have already expressed our opinion in regard to Chapman's elastic shaft fastener, and the only way you can receive further information, will be to order one pair or more and give them a trial, after which you must give up the idea of its being a humbug. We say they are just the thing. Which fact we think you will comprehend sooner or later.

P. D., of Ill.—We have given you as correct a history of the gentleman you refer to, as the nature of the case will admit. A letter addressed to Mr. Ed. Everett, Quincy, Illinois, will probably meet with a more satisfactory answer than we would have the means to furnish.

D. P., of Ill.—You may rest assured that Sprout's combined spring and perch will meet your most sanguine expectations. We are now using a buggy and a sulky with these springs, and would say that we have never seen their equal, for strength, lightness, and extraordinary ease of motion.

P. P. K., of Miss.—We have never seen the patent made hub band you allude to, and we have our doubts as to such an improvement being in existence; however, if your friend saw them in Philadelphia, we should think most any of the coach hardware and trimming merchants of that city, (as advertised in the Magazine,) could inform you correctly respecting it.

S. M. P., of N. Y.—Your drawing, representing your proposed improvement in pole loops for carriages, is received. You will find little, if any, trouble in obtaining a patent. With your permission we will illustrate it in our next No.

C. W. S., of Mass.—The plan you propose for a shifting front for carriage f. old, very old, and as we have stated, Mr. Shumton, of Reading, Pa., secured a patent for the same thing. It is of no kind of utility.

D. W. D., of Me.—Your drawings are received. Accept our thanks for the same.

To our New Haven and Bridgeport subscribers. A slight mistake was made in doing up the magazine for last month, for your cities, viz: all in one package and directed the post office with subscribers' names on each magazine, whereas the clubs should have been sent in separate covers, and directed to the respective factories, &c. *It shall never occur again.*

CORRECTION.—In our column, *Answer to Correspondence*, in the last number, our compositor made awful nonsense of our reply to S. S., of New York, by omitting the word *top*, viz: the *top* extremity of the wheel, instead of the extremity of the wheel. It was unobserved by us until too late for correction.

MORE ABOUT THE EVERETT COUPLING.

We have received several communications from Mr. Haussknecht, in which he complains of our decision in regard to the above coupling, as it appeared in the August No., and states that he is prepared to prove *most clearly*, after all that has been said, that he is *right*, and requests of us to insert a communication he will furnish for our next number. As we have before stated, we are entirely disinterested in this contention between the Messrs. Everett and Mr. Haussknecht, and the decision referred to, was based upon the proofs that we obtained from the patent office. But if we were in error upon the subject, we shall, with the greatest of pleasure, expose and correct it so soon as we are convinced of such error. Mr. H. says we made no reference to his first patent, and that we therefore did him a great injustice, by not giving illustrations from the same, and which were the *most* important. So much of his assertion we must confess is correct, viz: that we did not refer to his first patent, as we thought it unnecessary. Under these circumstances we will most freely give Mr. H. a chance through the Magazine to present the facts he has to offer.

They shall appear in our next.

Just as we are going to press with this No., have been shown a most ingenious and simple instrument for oiling carriage wheels without removing the latter from the axle, thus entirely obviating the use of the *jack* and *wrench* now so prevalent in the performance of this greasy duty. See advertisement in this No.

The drawing department for our next will be full of *new* styles of various kinds; altogether it will be a beautifully illustrated No.

AXLE ILLUSTRATIONS.

FROM THE SAUNDERS FACTORY, HASTINGS, ON THE HUDSON, N. Y.

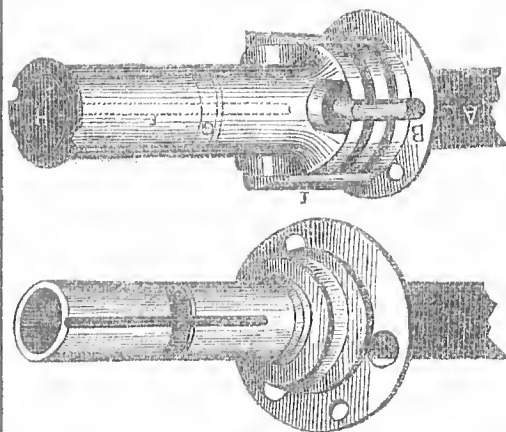
With this No. we commence the illustration of the different kinds of steel converted axles, which are pronounced the best articles manufactured in this country, and such as the coach-maker can fully rely upon. These illustrations will be collected from all the different axle factories in the Union whose productions bear a good reputation.

We are truly anxious to see the proprietors in our fraternity adopt the use of a better axle than those inferior things we have before described. A *good* axle, it is true, is more costly, but need we remind any of our readers of that old yet true problem, that cheap articles in the end are dear ones, and it is one too that invariably holds good in every piece or particle of material that is employed in the construction of a carriage. Buy a *cheap thing* and you have a dear one; and especially is this the case in the axle.

We will now direct the attention of our readers to the following illustrations and explanations

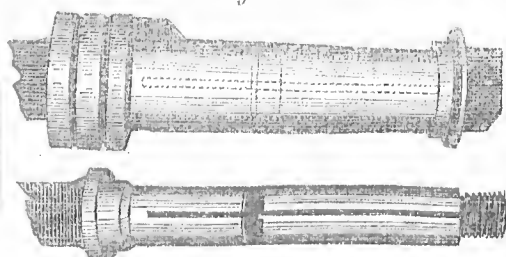
of the same, furnished us by Mr. W. H. Saunders.

No. 1.—*Saunders's Improvements on the Mail Axle, with Short Bolts, Patented March 5th, 1850.*



Complaints being continually made of the trouble and expense in time, of letting the long bolts of the mail axle into the hub, Mr. S. has invented and patented a form of bolt called the shortbolt or key, which can be let into the hub along with the box, and as a part of it, and thus the necessity of boring through the hubs for each bolt is avoided, time and trouble saved, and the spokes are left off their original strength, being untouched by the bolts, for these, instead of passing through the hub from front to back, are laid in grooves, cut parallel to the axles on the outside of the large end of the box, (not extending beyond it,) and their ends turned down at a right angle, into hubs drilled to fit them, in three lugs cast on the small end of the box, where it meets the large end, as shown in the above figure. At the opposite, or small end of the box, (in front of the hub) a screw is cut, to which is fitted a small malleable iron ring or disc, which is screwed upon the projecting point of the small end of the box, after it is fastened into the hub. This disc contains two notches in its circumference, for the purpose of receiving two nails or screws, whereby the disc is firmly fixed to, and has a bearing against the front face of the hub, and cannot possibly become unscrewed, or permit the box to work loose or draw forward in the hub, or leave it, until those screws or nails are withdrawn, and the disc unscrewed from the box end, when for any purpose it becomes requisite to remove the box from the hub. The other parts of this axle are similar to the mail axle hereafter described, and, viewed as a whole, it forms by far the most compact and elegant form of mail axle ever produced in any country.

No. 2.—*Improved Half Patent Axle with Colling's Collar.*



This axle, which, with this collar, was first introduced by W. H. Saunders, has recently been much improved by him in style and proportions, inasmuch that it has now become a very favorite axle for light carriages. Its peculiarities are,

first, instead of the old form of mail collar W. H. S. applied to it the collar of the Colling's Axle, which by overlapping the large end of the box retains the lubricating greaser, and excludes the road dust. Second, the ring at the back of the nut contains a leather washer, and overlaps the small end of the box in the same manner and for the same purposes as the collar does the large end. In this respect the half patent is similar to the patent taper axle hereafter illustrated and described, but this axle differs from the taper not only in the form of its collar, but also in having a receptacle or chamber for oil in the large end of the box near the axle collar when the box is in position on its axle. The taper axle has not this oil chamber because the improved form being intended for the light trotting wagons, it was one principal object to reduce the diameter of the box as much as possible whereby it would be suitable for the smallest hubs.

The proportions of this half patent axle as now made, are very good, and taking it altogether, it is a compact, handsome, and useful axle, running without a noise, retaining its lubricating matter and excluding road dust. It is, in short, a pleasant, durable, and safe axle.

For *Saunders's Magazine*.

RAMBLINGS—No. 3.

MR. EDITOR:—This rambling life is indeed full of pleasure and romance, though like the rose bush it has also its thorns. But it is not of romance, neither the pleasure of flying from town to city and city to town, that I would now speak of particularly. If it were the Magazine would fail to hold all the pleasing incidents I might record. Then I must be content at present by simply informing you of my ramblings and whereabouts.

In Belchertown, and Amesbury, Massachusetts, I found that the business of carriage manufacturing was not in the rear of any other there conducted, it being about the only business of both places. In justice to Messrs. Sargent & Gunnison, I must state that they were enterprising enough to procure a club of *eighteen* subscribers in their factory. These gentlemen are doing a heavy and flourishing business.

From there I shaped my course to Concord, N. H., a place almost universally known for its peculiar kind of coaches. The establishment of Messrs. Downing & Son, also of Mr. Abbot, are factories on an extensive scale, and any person visiting the place, whether carriage-maker or not, ought to call at those factories see their productions. In this city I also obtained a large number of subscribers to the Magazine, and hereby tender them my thanks and sincere regards, hoping they may be abundantly benefited by the *Coach-Makers' Magazine* that will be showered upon them for 1855. Thence to Exeter and Dover. They are both beautiful places, and seemingly alive with business, where also the Magazine met with a *hearty welcome*.

Next to Maine, the State where the pines grow so large and thick that the eye can scarcely penetrate into the woods the distance of a stone's throw, except where rocks abound, and they certainly occupy twenty-five per cent. of the whole State, but notwithstanding all this, my subscription list in Portland, Bangor, and other places in the State will render a good account in favor of our journal. I also had the real pleasure of an old fashioned stage ride of sixty miles. The dust was so thick as almost to suffocate the passengers, no rain having fallen for some weeks; from this you may form something of an idea as to the kind of a trip that

was. Well, I got on, (as they say in this State,) and I discovered that I was about to leave the United States, as a good natured gentleman very politely stepped up to me and wished to know if there was anything in my trunk but wearing apparel. After being satisfied that all was about right, his eye caught sight of my well filled carpet sack; he very leisurely picked it up to test its weight; finding it tolerably heavy, he remarked there must be some Yankee notions in that, and therefore must have a peep; and so he did, for it was full up to the brim with magazines. I gave him a July No., which seemed very much to interest the official gentleman. All seemed now to be right, and I left him standing up reading the magazine; I don't suppose he moved a peg till he got through, for that like all the other Nos. was a very interesting one, and I suppose by this time he is well acquainted with the editor, and particularly his general agent.

But I must close at once, or else the gates will be closed in the old walled city of Quebec.

ABM. TERRILL.

QUEBEC, Canada East, Sept., 1855.

For the Coach-Makers' Monthly Magazine.

BENT AND SAWED RIMBS, OR SHORT RIMBS AND LONG ONES.

MR. HERRON:—There is an imperfection visible in almost all light wheels, with bent rims, which you, no doubt, as well as many of your readers have frequently observed, viz: That some of the spokes bind harder than others in the same wheel. And upon a close examination it will be further observed that those spokes which are the most sprung, are immediately on either side of the two joints of the rim. Now the question naturally arises, (and many of our brethren have suggested it,) *what is the cause of all this.*

In sawed rims, where there is from six to eight joints; this imperfection is not perceptible, but on the contrary we find almost invariably that if one spoke is sprung in this wheel, they are all strained in equal proportion, which disproves the fallacy advocated by some, that the cause of this is the effect of the even or uneven bent that is imparted to the tire, when in the act of applying it to the rim. Then to what do we attribute the difficulty.

This is a question which has for the past fourteen years, set me to thinking and experimenting to a considerable extent, (in fact I have made the wheel, and its connection to the vehicle, my study for many years,) with the hope of solving it, but never succeeded to my satisfaction until last April, at which time I put the following experiment into operation.

I had just selected two sets of light wheels (with bent rims,) to be hooped; before doing so, however, I took a fine saw and separated the rims of one set, so that there was six joints in the front wheels, and seven in the hind ones. I took particular pains to have both sets open alike, so that one should not receive more dish than the other; also in preparing the tire, great care was taken to impart to each the same amount of draft. The wheels were hooped, and when done the result was to show that the set whose rims were separated bound the spokes even and alike, whereas in the other set the spokes nearest the two joints, in each wheel, were sprung materially, while their neighbors remained straight. This experiment then answers the seemingly complicated question, (as to what is the cause of the spokes being so unevenly in bent rims, by showing the necessity of a sufficient number of joints to admit of the rims binding alike all around.

A bent rim should not be applied without it is perfectly reasoned, and in which case they can be sawed off in short pieces, the same as sawed felloes, and applied in like manner, which materially improves the wheel. It is the course I am now pursuing with bent rims, and find it to work admirably.

J. T.

For Saladee's Magazine.

FROM CALIFORNIA

THE COUNTRY, CLIMATE, THE ROADS, PRICES OF CARRIAGES, FUTURE PROSPECT OF COACH-MAKING, &c.

MR. SALADEE—*Dear Sir:*—With your permission I will now take great pleasure in furnishing your host of readers with a few lines of gossip from the golden region. I have been in Sacramento, as you are aware, nearly two years. When first I arrived here, I could scarcely think of anything, but to contrive some means to get back to my old native State, Ohio. I was very much dissatisfied, owing, I presume, to the strange manners and customs of the country. But the short space of six months wrought a great change in this respect. I then began to think, *as I now do*, that California is the very Eden of the earth, and nothing could induce me to exchange it for that of any other under heaven. The country is beautiful beyond description. The soil is of the first quality. Why sir, you know but little of *good* farming lands, until you have seen California. It is supposed by many, (as was the case with myself,) who are not acquainted with the country, that the mines are the only source from which wealth can be acquired. This, however, is a mistake. No set of men are better paid for their labor than the tillers of the ground and the mechanic. Our climate is as charming as that of Cuba, or even Italy.

CARRIAGES.

In Sacramento City there are a great number of vehicles, such as they are. They are most generally of the ordinary class; occasionally, of course, we see one of fine style and finish. However, they are all alike imported from Philadelphia, New York, Bridgeport, and other eastern cities. The roads in this country are certainly well adapted to the use of carriages of all kinds. Smoother and better roads you have never seen. The prices of carriages range from \$400 to \$2,500. I know of two close coaches that were sold in this city for the latter sum. Just about such a carriage as you could buy from Watson, in Philadelphia, for from \$1,000 to \$1,100. A plain, neat buggy, with calash top, leather trimming, such as you sell at \$200, range here at from 400 to \$500. The cause of this great advance on carriages is owing, I suppose, to the great expense of importing them, and also from the fact that no work is being manufactured in this locality. It is my opinion that there is now the greatest opening here for a company with a good capital to start a carriage factory in all Christendom. The timber would all have to be shipped from the Middle States. This, however, at the present time, would be but a small item, since the wheels could be bought ready made, or instead of them the spokes turned, hubs morticed, rims bent, shafts, springs, bars, and poles, and the like, could be boxed and shipped with as little trouble as the hardware and trimmings. The timber for bodies could also be sawed out and shipped in its rough state; thus obviating the expense of carrying any unnecessary lumber, panel stuff could here be obtained for all purposes. And in a few days more, when the iron steel will find his way to our land, and he most certainly

will, the expense of importing the necessary materials for the consumption of a carriage factory will be comparatively trifling, and the prices which could be commanded for its production, and the continued demand there would be for the same, would, in my humble opinion, be such as to more than amply compensate a company for the undertaking; and it is rather a surprising circumstance, in my mind, that some of your Yankees have not been wide enough awake to see this opening for a money making business.

We have a people who possess the right spirit to encourage an enterprise of this character. Generally speaking they are wealthy, and believe in the old proverb of enjoying the fruits of their riches, and consequently such a luxury as a carriage will be enjoyed, though it require a large amount of money to do it.

Yours, &c.,

J. F. McBRIDE.

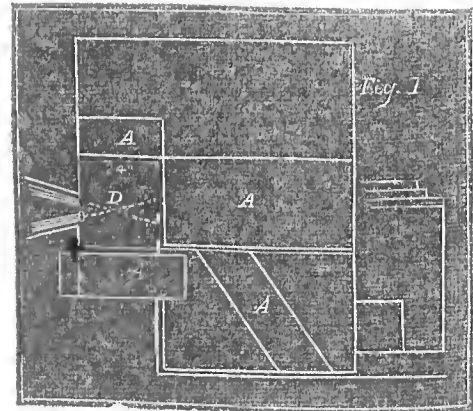
SACRAMENTO CITY, Cal., July 23, 1855.

From the Scientific American.

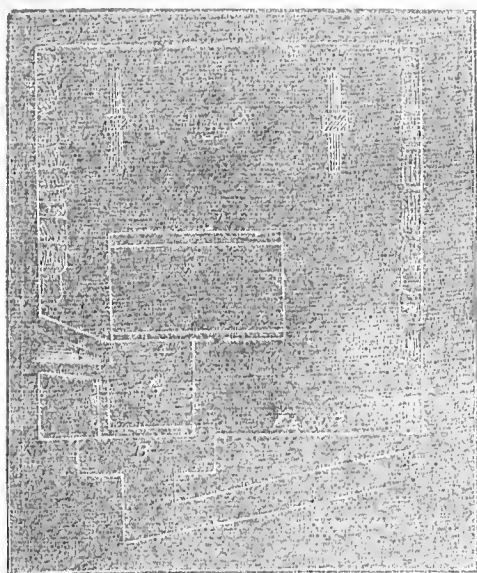
ON THE MANUFACTURE OF STEEL.

The following is the substance of a paper read a short time since by Charles Sanderson, Esq., before the Royal Society of Arts; London, and published in the London *Mechanics Magazine*, and the *Mining Journal*.

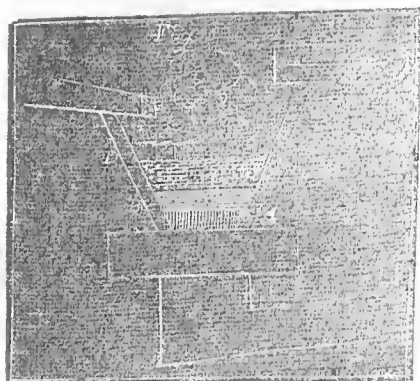
The kinds of steel which are manufactured are natural steel, called raw steel, or German steel; Paal steel; produced in Styria, by a peculiar method; cemented or converted steel; cast steel, obtained by melting cemented steel; puddled steel, obtained by puddling pig iron in a peculiar way.



Natural or German steel is so called because it is produced direct from pig iron, the result of the fusion of the spathose iron ores alone, or in a small degree mixed with the brown oxyd; these ores produce a highly crystalline metal called *spiegel eisen*, that is, looking-glass iron, on account of the very large crystals the metal presents. This crude iron contains about four per cent of carbon, and four to five per cent of manganese. Karsten, Hassenfratz, Marcher, and Reamur, all advocate the use of gray pig iron for the production of steel; indeed they state distinctly that first quality steel cannot be produced without it; that the object is to clear away all foreign matter by working it in the furnace to retain the carbon, and to combine it with the iron. This theory is incorrect, although supported by such high authorities. Gray iron contains the maximum quantity of carbon, and consequently remains for a longer time in a state of fluidity than iron containing less carbon; the metal is then mixed up, not only with the foreign matter it may contain, but also with that



with which it may become mixed in the furnace in which it is worked. This prolonged working, which is necessary to bring highly carbonized iron into a malleable state, increases the tendency to produce silicates of iron, which entering into composition with the steel during its production, renders it red short. Again, by this lengthened process, the metal becomes very tender and open in its grain; the molecules of silicate of iron which are produced will not unite with the true metallic part; and also, whenever the molecular construction of iron or steel is destroyed by excessive heat, it becomes unmalleable. Both these are the causes of red shortness, and also of the want of strength when cold. In Austria, however, they have improved upon the general continental process, their pig iron is often highly carbonized, but they tap the



metal from the blast furnace into a round hole, and throw a little water on the surface, they thus chill a small cake about half an inch, this is taken from the surface, and the same operation is performed until the whole is formed into cakes; these cakes are then piled edgewise in a furnace, are covered with charcoal, and heated for forty-eight hours; by this process the carbon in very much discharged. By using these cakes in the refining, the steel is sooner made, and is of better quality. Pig iron can only be freed from its impurities whilst in a fluid state. It should be purified in that state to obtain a purer metal for the production of steel. The metal itself being to some extent decarbonized, is sooner brought into "nature," as it is termed; that is, it sooner becomes steel. The process being shorter, and the metal itself being purer, there is less opportunity for the formation of deleterious compounds, which becoming incorporated with the steel, seriously injure its quality. Or

crude steel manufactured from crude iron, either purified or not, of any defined quality, will inherit such quality, be it good or bad. Art can in some degree remove these noxious qualities from the crude iron.

The furnaces in which raw or natural steel is manufactured is nearly the same, as far as regards their general construction, in all countries where such steel is produced; yet each country, or even district, has the fire in which the metal is worked differently constructed. We find, therefore, the German, the Styrian, the Carinthian, and many other methods, all producing steel from pig iron, yet pursuing different modes of operation. In Seigen they use the white carbonized manganesian metal, while in Austria a gray or mottled pig iron is used.

The furnace is built in the same form as a common charcoal refinery.

Fig. 1 shows a ground plan of the furnace; fig. 2 an elevation; and fig. 3 the form of the fire itself and the position of the metal within it. The fire, D, is 24 inches long and 24 inches wide; A A A are metal plates surrounding the furnace.

Fig. 2 shows the elevation, usually built of stone, and braced with iron bars. The fire, G, is 16 inches deep and 24 inches wide. Before the tuyere, at B, a space is left under the fire, to allow the damp to escape, and thus keep the bottom dry and hot.

In fig. 1 there are two tuyeres, but only one tuyere-iron which receives both the blast nozzles, which are so laid and directed that the currents of air cross each other, as shown by the dotted lines; the blast is kept as regular as possible, so that the fire may be of one uniform heat, whatever intensity may be required.

Fig. 3 shows the fire itself, with the metal, charcoal, and blast. A is a bottom of charcoal rammed down very close and hard. B is another bottom, but not so closely beaten down; this bed of charcoal protects the under one, and serves also to give out carbon to the loop of steel during its production. C is a thin stratum of metal, which is kept in the fire to surround the loop. D shows the loop itself in progress.

When the fire is hot, the first operation is to melt down a portion of pig iron, say 50 to 70 pounds, according as the pig contains more or less carbon; the charcoal is then pushed back from the upper part of the fire, and the blast, which is then reduced, is allowed to play upon the surface of the metal, adding from time to time some hammer slack, or rich cinder, the result of the previous loop. All these operations tend to decarbonise the metal to a certain extent; the mass begins to thicken, and at length becomes solid. The workman then draws together the charcoal and melts down another portion of metal upon the cake. This operation renders the face of the cake again fluid, but the operation of decarbonization being repeated in the second charge, it also thickens, incorporates itself with the previous cake, and the whole becomes hard; metal is again added, until the loop is completed. During these successive operations the loop is never raised before the blast as it is in making iron, but it is drawn from the fire and hammered into a large bloom, which is cut into several pieces, the ends being kept separated from the middle or more solid parts, which are the best.

This operation, apparently so simple in itself, requires both skill and care. The workman has to judge as the operation proceeds, of the amount of carbon which he has retained from the pig iron; if too much, the result is very raw, crude, untreatable steel; if too little, he obtains only a

steelified iron. He has also to keep the cinder at a proper degree of fluidity, which is modified from time to time by the addition of quarts, old slags, &c. It is usual to keep from two to three inches of cinder on the face of the metal, to protect it from the direct action of the blast. The fire itself is formed of iron plates, and the two charcoal bottoms rise to within nine inches of the tuyere, which is laid flatter than when iron is being made. The position of the tuyere causes the fire to work more slowly, but it insures a better result.

The quantity of blast required is about 180 cubic feet per minute, at a pressure of 17 inches water gauge. Good workmen make 7 cwt. of steel in 17 hours. The waste of the pig iron is from 20 to 25 per cent, and the quantity of charcoal consumed is 240 bushels per ton. The inclination of the tuyere is 12 to 15 degrees. The flame of the fire is the best guide for the workman. During its working it should be a red bluish color. When it becomes white the fire is working too hot.

This concludes first part of Mr. Sanderson's very useful paper on natural steel. The second part embraces a distinct manufacture of steel, and is entirely separate from this.

OUR PLATE PAPER.—We have of late heard many complaints from our subscribers to the effect that the paper we employ in the drawing department is too hard and thick, and consequently when it is folded, breaks, and thus very much injures the plates. We have ordered a different article manufactured, which is much finer and softer, and therefore we hope to avoid the trouble referred to. We have used the new paper in this No. and think it is a decided improvement.

MISCELLANEOUS.

THE SONG OF THE MEGRANIC.

The hum of a thousand wheels in our ear,
Like some old ponderous gong;
The sledge hammer ringing alarms in the glare;
The groan of a press, as if burdened with care;
The tramp of the iron horse, faster than air,
And his thundering snort heard everywhere;
'Tis but the orchestra that e'er
Accompanies their song.

Men of the brawny arm are we,
Men not ashamed of labor;
Though clouds may sometimes veil our face,
Our heart shines through in smiles that chase
The darkness from our neighbor.

We are the men who forge the bars
That link the town and lea,
Where engines rushing through the vale—
Our children, racing with the gale—
Are shouting lustily!

The mighty ship that proudly rides
Over the restless deep
Was reared by us. Her noiseless wings
Bend to the evening breeze that sighs,
And rocks her into sleep.

The Press—that throbbing heart where beats
The pulse of every thought;
The clock of mind which strikes the hour,
And a nation rises in its power—
Without our aid is naught.

The pen which, dipped in lightning, writes
At one stroke round the earth,
Ne'er staid by mountain nor the river,
On whose broad face the sunbeams quiver,
Owes to our hand its birth.

These thoughts make gladness in our hearts
Re-echo, like a bell;
And like her voice who waits to greet us,
Or leads our little child to meet us,
More sweet than we may tell.

Then let the joyous song be heard,
Let all be filled with mirth,
Let it be known throughout the land
That the members of our iron band
Are the happiest on the earth.

The sound that lingers in our ear,
Like some old ponderous gong,
Is but the orchestra that e'er
Accompanies their song.

BEWARE OF THE WIDOW.

The widow is a dangerous thing,
With soft, black, shining curls;
And looketh more bewitching
Than a host of romping girls.
Her laugh is so delicious—
So knowing, clear, beside—
You'd never dream her thinking
Soon to become a bride.

Her dress, though made of sable,
Gives roundness to her form—
A touch of something thoughtful,
A witching, winning charm;
And when she sits down by you,
With quiet, easy grace,
A tear may fall unbidden,
Or a smile light up her face.

Her voice is soft, melodious,
And lute-like in its tone.
She sometimes sighs "Tis dreadful
To pass through life alone!"
Then she'll tell you, you remind her,
Of the loved one dead and gone;
Your step, your form, your features—
Thus the widow will run on.

Oh! listen, yet be careful,
For well she plays her part:
Her lips distil the nectar
That doth enslave the heart;
Be guarded, or she'll win you
With sighs, and smiles, and tears.
And when you're safely wedded
She may box your silly ears!

From The Buffalo Republic
SNAKE AGAIN.

Our regular correspondent sends us the following capital imitation of one of Longfellow's translations, and like him, has endeavored to preserve the irregularities of the original. He insists, however, that nothing in his poem shall be so constrained as to adhere in the remotest manner to the individual who went to the bottom of Lake Erie the other day to see what was going on.

A WOLF SNAKE STORY.

How John the fisherman saw a monster Sea Serpient in Lake Erie, also, how he was "sucked in" by it.

Come all ye sons of Wyoming, now listen to my song,
'Tis of a monster serpent five hundred cubits long—
'Twas seen by John, a fisherman, on the waves of Lake Erie.
In eighteen hundred twenty-two, or it may be twenty-three.
Now John, he was as good a man as e'er lived by the shore,
And for to get his daily bread, he piled the feathered oar.
And caught the simple fishes which his tempting bait did take—
So John he earned his livelihood, all on the cruel lake.
'Twas on a summer afternoon, the day was well nigh done,
When John went out to catch some trout for to sell in the town.
Night came on, no John came home, his wife wept at his door,
She thought that she would never see her Johnny's face no more.
Straightway she sends unto his friends—asks them to seek her love,
And tells them all, she fears his soul has gone to rest above.
All through the dismal night they sought, and sought, and sought
in vain.

Until the morning sun came out and brightened up the plain.
And then—Oh grief to tell! and then the body of Johnny they saw,
A floating on the restless waves, amid the weeds and straw.
But all of life was not extinct, for he opened his eyes.
Then opened his mouth and spoke—much to their surprise,
Tired when the sun went down, I thought I'd start for home,
But first I'd rest myself awhile and take a glass of rum.
Then straight I rowed up to a log, which floated on the lake,
And sootably I took my grog, and ate my cheese and cake.
But presently a horrid sight, my bewildered eyes did see,
Worms, and toads, and eels, and snakes, crept round and over me,
In vain I tried to drive them off, they stuck to me like pitch,
And demon-like they sucked my blood; oh Lord how I did hich.
In deep despair I then sank down into the bottom of the boat,
When old my very hair now shudders at the thought—
The thing I'd taken for a log, moved quietly up the lake,
And by its head and tail I knew it was a monstrous snake.
Five hundred cubits was its length, like balls of fire its eyes,
Its mouth was like a mountain's cave, its head reached to the
skies.

Nor, since the world has floated on in illimitable space,
Do I believe so like a thing was e'er seen on its face.
At one fell snick, he sucked me in, my boat, my cake, my rum,
And threw me up, again, on land, ere day to night had come!
Then John he died—his friends all thought that glasses helped his
sight,
That Snakes and Boats were magnified, beyond conception quite.

MORAL.

Now all ye sons of Wyoming, who sail on Silver Lake,
Beware lest you drink too much rum and see as large a snake.
BUFFALO, August 15, 1854.

From the Waverly Magazine.

GET MARRIED.

Young man, if you have arrived at the right point of life for it, let every consideration give way to that of getting married. Don't think of

anything else. Keep poking about the rubbish of the world, till you have stirred up a gem worth possessing in the shape of a wife. Never think of delaying the matter; for you know delays are dangerous. A good wife is the most faithful and constant companion you can possibly have by your side, while performing the journey of life—a dog isn't a touch to her. She can smooth your linen and your cares for you,—mend your trowsers and perchance your manners—sweeten your sour moments as well as your tea and coffee; ruffle your shirt bosom; but not your temper; and instead of sowing the seeds of sorrow in your path, she will sew the buttons on your shirts, and plant happiness instead of sorrow in your bosom.

When a woman loves, she loves with a double distilled devotedness; and when she hates, it is on the high pressure principle. Her love is as deep as the ocean, as strong as a hempen halter, and as immutable as the rock of ages. She won't change, except it is in a very strong fit of jealousy; and even then it lingers as if loth to depart, like evening twilight at the windows of the west. Get married by all means. All the excuses you can fish up against doing the deed, ain't worth a spoonful of pigeon's milk. Get married, I repeat, young men! Concentrate your affections upon one object, and do not distribute them crumb by crumb among a host of Susans, Marys, Lauras, Olives, Elizas, Augustas, Betsies, and Dorotheas.

DANGER OF DRIVING RED BUGGIES IN MISSISSIPPI.

We copy the following extract from one of Col. Claiborne's letters from the pine woods of Mississippi, published in the New Orleans Delta:

"I set out for Augusta, bowling merrily along in a blood red buggy. The road is beautiful, roofed with trees and vines, and the air fragrant with the breath of flowers. There was one drawback—the myriads of flies, of every species, that swarmed around, and ravenously eniped the blood from the ears, neck and flanks of my horse. It is what is appropriately termed here "fly-time"—that is to say the period when this numerous family of scourgers have it all their own way, and neither man nor beast can venture into the woods with impunity. Now the cattle from a thousand hills, and even the wild deer, seek the abodes of men, and huddle around some smoking pine, or stand in some open field to escape their periodical tormentors.

On a sudden curve of the road, I found myself in one of these "stamping grounds, a simultaneous roar from five hundred infuriated animals gave notice of my danger. It is well known that the Spanish matadores provoke the wounded bulls of the arena by flaunting the moleta or blood-red flag before them. It was color of my equipage that excited this bellowing herd. They snuffed the air, planted their heads near the ground, tore up the earth with their hoofs and glared at me with savage eyes. The fierce phalanx blocked the road, and the part of discretion was to retreat. My horse dashed forward, frantic with terror, and on they plunged on every side crushing down everything in their course, goring and tumbling over each other, filling the woods with their dreadful cries, and gathering nearer and nearer in the fearful chase.

The contest now became desperate. In five minutes we should have been overturned and trampled to death; but at this juncture I threw out my overcoat, and with an awful clamor, they

paused to fight over it, and tear it into shreds. Driving at full speed I tossed out a cushion; the infuriated animals trampled it to atoms, and came rushing on, their horns clashing against the buggy, and ripping up the ribs of my horse. At this fearful moment we were providentially saved. A monstrous oak, with a forked top, had fallen near the road, and into this I plunged my horse breast high, and he was safe, the back of the buggy being the only assailable point. At this the whole column made a dash, but I met the foremost with six discharges from a revolver; two bottles of Sewell Taylor's best were shivered in their faces; next a cold turkey, and finally a bottle of Scotch snuff—the last shot in the locker.

This did the business. Such a sneezing and bellowing was never heard before; and the one that got it put out with the whole troop at his heels, circling around, scenting the blood that had been spilled, and shaking the earth with their thundering tramp. I was now fairly in for it, and made up my mind to remain until sun set, when they would disperse, as in "fly time," cattle graze at night. I was relieved, however, by the approach of some cattle drivers, who galloping upon shaggy but muscular horses, and with whips twenty feet long, which they manage with a surprising dexterity, soon drove the herd to their "cow-pens," for the purpose of marking and branding. This is done every year in "fly time." The cattle ranging, scattered, thirty miles around, are now easily found, collected at their stamping grounds, and are driven to a common pen or pound, where the respective owners assemble and put their marks and brands on the increase of the season. Thus, this Egyptian plague is turned to a useful purpose."

A PAPER HORSE FOR A BUGGY, OR A NEW MOTIVE POWER.—The Boston Journal contains the following:

A beautiful kite, of large dimensions, was launched into the upper regions, on Friday evening, by some of the gentlemen resident on Savin Hill, and as it sailed proudly through the vast expanse of blue, gave such indications of strength, that a large covered buggy, with two ladies and one gentleman inside was attached to the string, and drawn some hundred rods, with a speed which almost rivaled the railway train close by. It was a novel sight to witness the vehicle with its living freight borne along by a slender string, with its paper horse high above waving a tail of uncommon length, and looking down upon the gazing crowd of spectators like a thing of life. Who will start a kite railway?—the experiment has been fairly tried.

One of the co-editors and proprietors of the Scientific American, Mr. S. H. Wales, is now, and has been for some months in Europe, as Commissioner to the French Exhibition. The following interesting article is from his pen, copied from the above paper:

THE GREAT FRENCH EXHIBITION; THE AMERICAN DEPARTMENT.

PARIS, July 12, 1855.

It is estimated that there are now invested in manufacturing in the United States, about six hundred millions of dollars, and that the annual value of the products reaches the enormous sum of one billion of dollars. We have large workshops and foundries scattered over the country; cotton, woolen, paper, oil, leather, and silk manufactories, besides forty thousand mills employed

in the lumber trade. The combined results of these immense interests throw into the shade the industrial exploits of any other nation within the same period. Yet it is not easy to convince a foreigner of this truth from the meager display that is made of our skill and ingenuity in this wonderful Paris Exhibition—and it now begins to appear that the manufacturers of the United States have committed a great blunder in not availing themselves of this open competition for the display of their products. I stated in one of my previous letters that they had no encouragement to come here, owing to the contiguous position of England, and of the advantages possessed by English manufacturers. I have thought very strange that the Canadas should have made an appropriation of \$50,000 for the purpose of Exhibiting their products in France.

I now understand that the good results of this enterprise are beginning to be realized, and that orders for lumber, edged tools, etc., are already on their way to Canada. France needs many things that can be imported from other countries having them in abundance, cheaper than they can be produced at home. In the article of building lumber, France is almost as poor as horses employed in the fish trade of New York. This remark is also true in regard to most of the more valuable minerals, and if the cotton and woolen manufactories of France would consult their own interests, they would set aside some of their old machinery and adopt such as is displayed from the English workshops of John Platt & Son of Oldham, and L. Elce & Co., of Manchester. Their spinning and carding machinery cannot be excelled—but in regard to looms, I think those made in the United States are the best. I am sorry that we have not one of Reynold's or Scott's Looms to show in our department. With all that has been said of the figure cut in this Congress of Ingenuity, we have really several contributions that do much credit to our country, as will be seen from the subjoined list of machines that have been illustrated in the Scientific American. In fact they comprise almost our entire show of machines.

We have Harraday's ingenious machine for cutting garments, furniture coverings, etc., etc.; H. W. Peaslee's excellent machine for washing and handling paper stock; Charles Starr's book-binding machine, improved and exhibited by Sanborn & Carter, of Portland, Me.; Halliday's windmill; Willard Day's submarine lamp; Wilson's and Singer's sewing machines, actively in operation, to a staring multitude; Aatkin's curious raking machine, attached to reaper, by J. S. Wright, of Chicago; also, McCormick's and Manny's reaper, each of which have appeared in the "History of the Reaper." A machine for cutting metals, invented by S. P. Ruggles of Boston, Mass., is a very fine invention, and does our country much honor. It is faithfully attended by E. Richmond, who is the European proprietor, and with the true spirit of an enterprising Yankee, he shows his visitors how easy it is for such a machine to bite off the thickest plates of iron. It effects in an easy manner the rude operation of the blacksmith, who first cuts the enamel of the iron on each side, with his cold chisel, and then breaks the internal substance by a blow, over his anvil. The machine has a wheel that revolves with mathematical exactness, cutting the upper enamel of the plate by a rotatory drawing stroke. It is put in motion by a toothed rack, which causes it to traverse across the upper surface of the plate, whilst the pressure of this wheel against the edge of a horizontal fixed blade causes it to cut the lower enamel, and at the same instant produces a separation of

the internal fibers of the iron, so that the plate is divided without the blades coming in contact with each other, nearer than half or two-thirds of an inch. The cutters can be elevated and depressed to suit any desired thickness of iron, by means of eccentric bolts. The cutting bolts are nearly straight on their edges, and therefore if properly chilled they will not require sharpening. It requires very little power to operate the machine, and cuts the heaviest boiler plate at the rate of 10 ft. per minute. It possesses another important advantage, viz: by the use of an adjustable plate holder it is capable of cutting circular lines, thus adapting it to the use of tin, copper and zinc workers. A small machine for this purpose is on exhibition, and I am pleased to learn that the business prospects of its exhibition are very encouraging. I consider it the best iron cutting machine in use.

F. & A. Walle, of Bethlehem, exhibit their ingenious machinery for making paper bags. The importance of such machines will be understood when the fact is known that about nine hundred millions of paper bags are annually consumed in the United States, for packing garden seeds, groceries, etc. Until the introduction of this machinery these bags were made by hand, at the rate of about 1000 per day; the machine is capable of supplying 15,000 per day. It performs the several operations of cutting, folding, pasting, and printing the bag, and by means of a chamber at one end, into which the bags are carried by a series of belts, they are brought into contact with a current of air, and rapidly dried, and are thus delivered for use. The printing is done by the aid of a type cylinder, revolving suitably with the velocity of the bag to be operated upon, and inked by rollers. A machine to do all this it necessarily made up of many parts, requiring several changes of motion, and without illustrations it is difficult to present a clear idea of its operation. The machinery in operation attracts a good deal of attention.

J. A. Reed, of New York, exhibits a very beautiful improvement in oscillating steam engines. For simplicity and effectiveness, I think it the best engine in the building. This is saying a good deal, considering that there are about 100 steam engines on exhibition. The exhibitor is, I believe, finding a great demand for his engines, and has already sold his stock on exhibition, consisting of three engines of 1, 3, and 15 horse. The peculiar features of this engine consist in admitting the steam into both sides of the cylinder at the same time, by its oscillating movement. By this means the steam pressure upon the cylinder is equalized or balanced. The advantages of the improvement are, that it enables the steam ports to be constructed much larger than the ordinary size, and allow a larger area for the steam to pass freely, and to exert its full power at once. The steam is admitted at the end of the cylinder, and acts at once upon the piston head. Mr. Reed also exhibits an improvement in steam pumping engines, which consists in arranging the valves upon a rod in such a manner as to balance the steam pressure, which enables the engine to be worked as in the case of a steam pump or saw, without the necessity of a balance wheel. If we are ever to have steam fire engines, and steam plows for our western prairies, I think we must depend upon these simple engines of Mr. Reed, as they are the very essence of simplicity.

Thomas Blanchard of Boston, has on exhibition two of his wonderful machines for carving; a small machine is now at work carving medallions upon ivory. It finishes them at the rate of one every twenty minutes, with hand power.

In dentistry we have seen some very superior specimens exhibited by Dr. N. W. Kingsley, of New York. The mounting is especially good. The artificial teeth of J. A. Ross of New York, now residing in Paris, are not excelled by any.

Wethreds, of Baltimore, exhibit a large sized machine of their system of surcharging steam—which has also been illustrated in the Scientific American.

A large machine, intended for carving busts of the size of life, is now waiting for the pattern of a bust of the Empress. The exhibitor intends to show the French people that he can produce a perfect bust, without the aid of the artist's chisel. It is certainly a very curious and ingenious invention, worthy of the inventor's fame. Among the other contributions which do credit to our country are, the series of Wind and Current Charts of Lieut. Maury. Specimens of bank note engraving by Rawdon, Wright & Co., of New York; a pair of weighing balances presented to France by the United States, through Alexander Vattemare, which are pronounced by Mr. Silbemann, Director of the Conservatoire of Arts, as the most perfect in the world; also very beautiful specimens of daguerreotypes by Gurney and Meade of New York. There are other articles of merit from our country, which I have not space to enumerate. I will however mention the grain separator and horse power of J. A. Pitts, of Buffalo—undoubtedly the finest machines for the purpose in the exhibition. We are creditably represented by a small but decidedly useful group of articles, and if the American exhibitors do not receive medals and honorable mention, it will be because they do not attend to representing their articles—a defect that sadly exists, I am sorry to say. It is impossible for the Commissioners to answer such inquiries as the juries are instituting. S. H. W.

P. S. Owing to the difficulty in getting the steam through the long series of copper pipes that have been used for that purpose, the Imperial Commission has ordered iron pipes to be substituted, as iron does not condense steam as rapidly as copper. This delays the machinery exhibition, and I shall be obliged to leave Paris without much time to see it all in operation.

To believe a business impossible, is the way to make it so.

TOMLINSON Spring and Axle Company.

MANUFACTURERS OF
COACH AND CARRIAGE
Tempered Springs.

Mail Patent, Half Patent and Taper

CASE HARDENED AXLES.
CAMEON St., BRIDGEPORT, Conn.

THE SUBSCRIBERS WOULD RESPECTFULLY CALL THE
attention of Coach and Carriage Manufacturers to their

Springs and Axles,

As we are confident we can furnish them an article unsurpassed
(as to quality of material and finish) in the United States.
Our Springs are manufactured from

ENGLISH STEEL,

made from the best Smeed's Iron, and our Axles from Salisbury
Iron.

Terms as favorable as any other manufacturer.

All orders filled with promptness.
WM. G. LESINBURG, Sec'y.
Oct., 1855. RUSSELL TOMLINSON, Esq., Pres't.
S. B. FERGUSON, Treas'r.

SPROUT'S COMBINED CARRIAGE SPRING PERCH AND BRACES! THREE COMBINED.

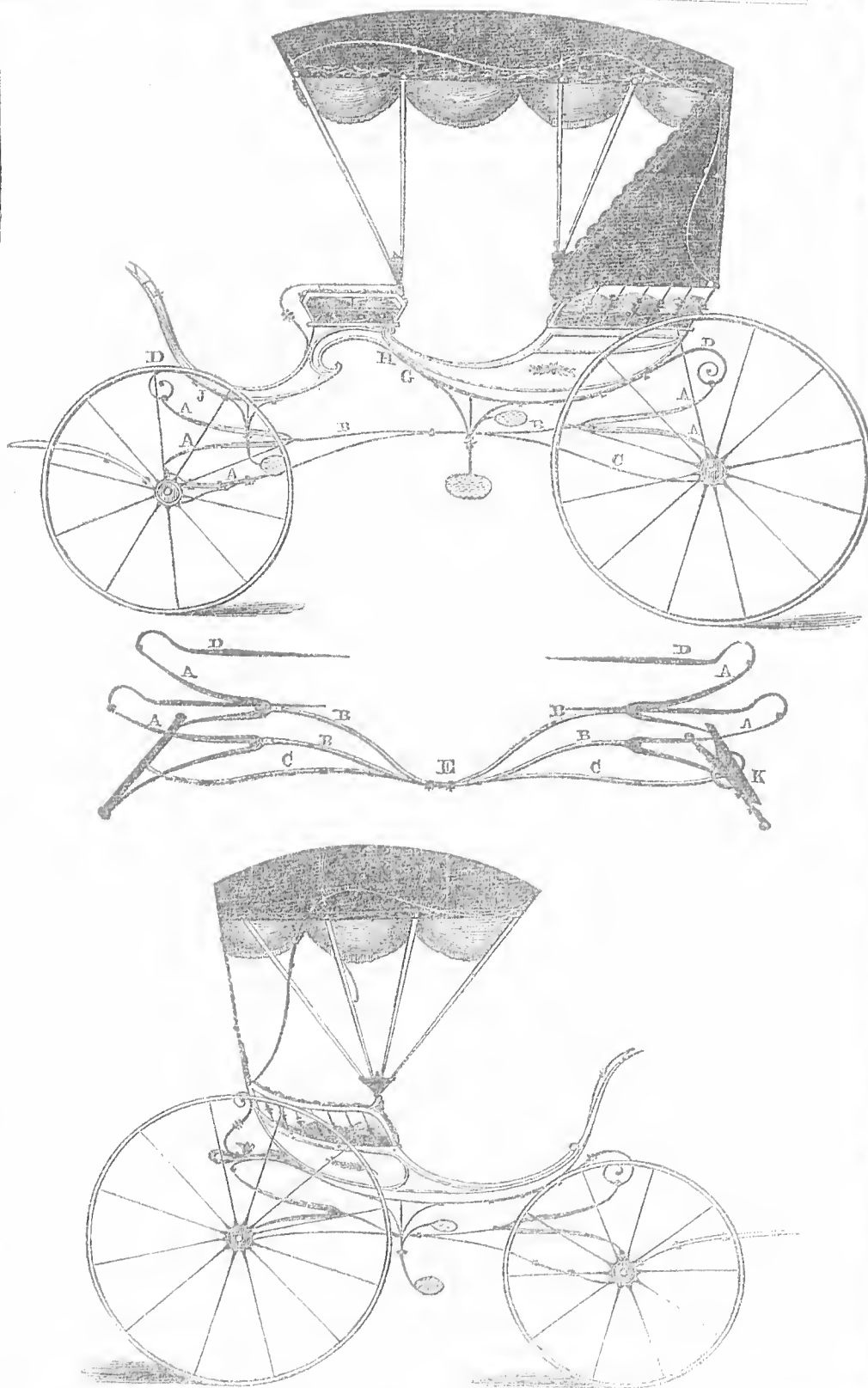
New arrangement.

The demand for our Combined Spring and Braces has so increased within the last month in the western and southern States, that we find it necessary to establish an agency in the west through which the coach-makers in that region of country can be promptly supplied.

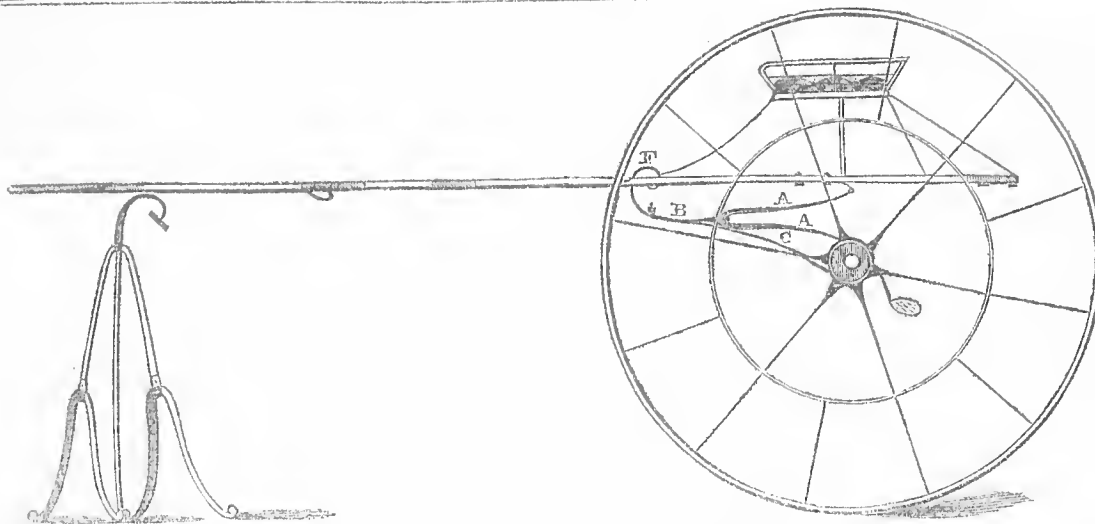
COLUMBUS, Ohio, is where we have located the agency above referred to, and where all orders from the following territories will meet with prompt attention, by being addressed to the *Office of the Coach-Makers' Magazine*, (Mr. Saladee having consented to attend to business for us until further arrangements can be made,) and to which address all orders from the States below mentioned must be directed, viz; all that portion of Pennsylvania west of the Alleghany Mountains, Virginia, Ohio, North and South Carolina, Georgia, Alabama, Tennessee, Mississippi, Louisiana, Missouri, Iowa, Milwaukee City, Wisconsin, Chicago, Illinois. The rest of the territory in the two latter States as well as Indiana and Kentucky, were sold before we commenced manufacturing; however, we are trying to make arrangements that will enable us to furnish our springs to the latter also. Mr. Abram Terrill, (Mr. Saladee's general agent,) is about to make a tour through the west to collect subscribers to the Magazine; the said gentleman is authorized to receive orders for our springs, as he sojourns through the different States.

Orders from all other territories not above mentioned, will be directed to the proprietors,
SPROUT, BURROWS & CO.,

Hughesville, Lycoming Co., Pennsylvania.
October, 1855.



THE COACH-MAKER'S MAGAZINE.



In offering this Spring to the Coach-making public we would most respectfully call the attention of the Craft to the following advantages they embrace over the ordinary Elliptic Springs :

- 1st. Possessing double the strength and elasticity.
- 2d. A Carriage can be built much lighter.
- 3d. Much less concussion to the passengers.
- 4th. Its liabilities to get out of repair are not near so numerous.
- 5th. The wheels adjust themselves to the road without the carriage rocking.
- 6th. Springs designed for a heavy load will carry a lighter one with ease.
- 7th. It serves effectually as a perfect brace to the whole vehicle.
- 8th. Requires much less labor, wood and iron to construct a carriage.
- 9th. The whole connection being of spring steel, a gentler motion is felt (instead of sudden jars, as with the ordinary perch and stiff braces,) and thus gives relief to the entire carriage.

These Springs if applied to the Carriage according to directions, (accompanying them) are not only warranted to stand, but to accomplish every point set forth in this advertisement, and any time within one year should they fail to perform, they can be returned, and the money refunded.

We are well aware that numerous patents have been granted within the last three years for improvements in Carriage Springs, and after the right was extensively sold to the Coach-makers throughout the country, many of them proved perfect failures, and thus shocked the confidence of the craft generally, in improvements for this branch of the carriage. But the proprietors of this Spring having full confidence in their improvement, have at a great expense erected large factories and employ the best facilities for their manufacture; and now offer to the public (not the right to make, &c.,) but the Spring itself and in a manner that none will be the loser to give them a trial, at the following low rates:

PRICES.

Sulky Springs	- - - - -	per sett, \$10 00	Side Seat Buggy Springs	- - - - -	per sett, \$17 00
Light Buggy Spring	- - - - -	" 15 00	Four Passenger	- - - - -	" 19 00
Top Buggy	- - - - -	" 16 00	Six	- - - - -	" 22 00

Persons sending their orders for a peculiar shaped Carriage should take the side or rocker pattern of the different bodies to which the Springs are to be applied, and mark them off on the white side of wall paper, and also make the points at each end of the pattern where they desire to have the body loop to terminate, and forward the same, and the Springs will be made to harmonize with the shape and length of the bodies.

RECOMMENDATIONS.

REPORT OF THE N. Y. STATE AGRICULTURAL SOCIETY-- SPROUT'S COMBINED CARRIAGE SPRINGS.

An entire new arrangement—getting double the resistance and elasticity, with less expense and weight of metal. The Committee recommend it as a valuable improvement a silver medal. In the Committee's awards they have given the Society's Silver Medal to the most meritorious articles.

J. B. LANGWORTHY.
JOSEPH SLOCUM.

I have used about one thousand dollars worth of Sprout's Combined Springs, and have not heard of the least dissatisfaction, but on the contrary universal praise. I have them under my own carriages for use, and know them to be the easiest and most durable springs that can be applied. Carriages can be got up with much greater despatch, and at less expense. All that part most liable to get out of repair is covered by these springs and warranted. They vibrate freely, and their motion over rough roads is peculiarly delightful. I can truly say I know of no spring equal to them now in use.

Milton, June 18th, 1866.

I am the owner of a livery stable, and have used nearly all kinds of springs, and have found none equal to Mr. Sprout's for ease and durability. The tops of buggies keep their places much better, not

sagging sideways, and for rough roads nothing can equal them. I can save 50 percent. in repairs by using these springs.

I had a 2 horse passenger wagon supplied with elliptics, which was, owing to the roughness of the roads continually getting out of repair. I had them exchanged for a set of Mr. Sprout's, since which time I have had no trouble, often carrying double what he warranted them to do. They have been in continual hard service for over two years, and are now as good as ever. They carry one or more persons with perfect ease. I also have them under buggies in my livery stable, and find them attended with much less expense than any other Spring.

Muncy, Pa., June 1855.

We, the undersigned, have had the old elliptic taken out, and Mr. Sprout's put in place and although attended with considerable cost, yet the difference in ease and durability far exceeds the trouble and expense.

JOHN F. McLEIN, Hughesville, Pa.
J. M. B. PETRIKIN, Attorney at Law, Muncy, Pa.
WOL. M. RANKIN, M. D.
H. WOOD, M. D.

A short time since, as I was travelling to a neighboring county, just before me I saw a buggy with Sprout's Combined Springs, which seemed to move over the road with all ease, the wheels working into ruts, over ruts and stones, at the same time the

body keeping its horizontal position, while that of my own tossed me from side to side, rendering it extremely difficult to retain my seat. I sold my buggy the first opportunity, and purchased one with Sprout's Combined Springs, and now I have the pleasure of riding as easy as my neighbors.

RUSSEL BODINE.
Hughesville, Pa., June 18, 1855.
I have a buggy and sulky with Sprout's Combined Carriage Springs, which I have used two years. In my opinion they exceed any thing of the kind ever offered to the public. Persons who consult ease, after having used these Springs, can never be persuaded back to the old elliptics.

JOHN H. ROTHROCK, M. D.
Hughesville, Pa., June 18, 1855.
TERMS:
All orders must be accompanied with the money to secure immediate attention, and directed (either by mail or express) to SPROUT, BURROWS, & CO., Hughesville, Lycoming Co., Pa., or their agent, ISAAC L. HUNT, No. 215, Pearl St., N. Y. City.

CAUTION.
Springs of an inferior quality have been manufactured and sold by persons without authority. This is to caution the purchaser as well as the vender, against such infringement, as they will be dealt with according to law.
SPROUT, BURROWS & Co., Proprietors

THE COACH-MAKERS' MAGAZINE.

**W. H. Saunders,
Hastings,
(ON THE HUDSON RIVER.)**

NEW YORK.

Manufacturer of Superior Steel Converted Carriage Axles, viz: Mail Axles, with long T Bolts and Grooves for them, and Saunders' Patent Mail Axles, with short Bolts and safety Rings; Half-Patent Axles, of improved forms and proportions, with Collings' Collars, or with Mail Collars; Saunders' very superior new Patent Taper Axles, with handsome bright Iron Square or Six-Sided Nuts.

TERMS LOW FOR CASH.

W. H. S. having reason to believe that Carriage Axles greatly inferior to those made by him, are frequently represented as Axles of his make, begs to notify Carriage Makers that *all* Axles made by him are marked on the shaft "Saunders' best Iron," or "Saunders' Patent," (with the date,) and that Axles represented as made by him, *and not so marked*, are usually poor imitations, fabricated from inferior, low-priced iron, are often of wretched workmanship, are dangerous to use, and give constant trouble.

The following Testimonial, with which W. H. Saunders has been favored by the gentlemen whose names are appended thereto, certifies the estimation in which Saunders' Axles are held by the most respectable Carriage Makers in New York and vicinity:

"The undersigned, Carriage Makers of New York and vicinity, having for many years used Axles of W. H. Saunders' manufacture, for the best classes of Carriages, recommend the same to the public with full confidence, as the best Carriage Axles made in the United States, and superior to any imported."

W. H. Saunders was the original introducer into the United States of the favorite Mail Axle; and its first manufacturer. He is the inventor of the Oil Chamber drilled out of the body of the Mail Axle at the end of the bearing, and is also the author of every improvement on the Mail and other Axles which has successfully stood the severe proof of New York Third Avenue practice, and is now adopted into general use. His patented improvements on the Mail Axle and also on the Taper Axle, after having been extensively tested, are superseding the older forms. W. H. S.'s Axles have always been awarded the first premium when exhibited for competition, and his new patent Taper Axle (patented June 1854) is universally admitted to be the best axle for light Carriages ever produced; for, although it is as strong as the Mail, and equally excludes road dust, and has a much longer bearing, with the same length of hub, yet, the 1 1/2 inch patent Taper Box measures only 1 1/8 inches, its outside diameter at the large end; thus it is evidently better fitted than any other for the smallest and shortest Hubs. Manufactory at Hastings, on the Hudson River, N. Y. Orders solicited.

SMITH & VAN HORN,

No. 70 Beekman Street, between Pearl & Gold Streets,

NEW YORK.

IMPORTERS OF AND DEALERS IN
CARRIAGE HARDWARE, TRIMMINGS, &C. &C.

HAVE ALWAYS ON HAND

Springs—all qualities,
Axles—all kinds,
Malleable Castings,
Carriage Bolts—best and common,
Patent Leather,
Enameled do.,
Painted Cloth,
Enameled Muslin, do.
Drills, do.
Duck do.,
Broad Cloth—all colors,
Damask—Worsted and Cotton,
Orleans Cloth—Silk Stripe, do.,
" Plain,
Brocadeles and Cotelines,
Curtain Silks,
Silk and Worsted Coach Laco,
" Fringo and Tassels,
Brussels and Velvet Carpet,
Oil Cloth Carpet,
Calecho Fixtures,
Spring Barrels,
Curtain Frames,
Coach and Buggy Lamps,
Lining and Saddle Nails,
Rein Hook Levers,
Brass and Silver Top Drops,
As well as all other articles used in the manufacture of Carriages.

S. & V. H. from their long experience in the business, think that their stock, which has been selected with great care and with a view to supply consumers, will, for quality and price, favorably compare with any other in the market, and solicit a trial from Carriage Manufacturers.

N. B.—English Varnish and Japan, put up in 1 Gal. Tin Cans.—Price of Carriage Varnish, \$5.—Body, do., \$5.75. Japan, \$5. Enameled Leather Varnish \$6 per Gal.
[June 1855]

**IMPORTANT TO
Carriage Builders
And Owners.**

CARRIAGE WHEELS OILED

AND THE

Axles Cleaned,

Without ever taking off the
Wheels, by Garratt's Pa-
tent Oil Socket, and
Axle Cleaner.

A VERY SMALL CONTRIVANCE,

To be set in the Hubs of all kinds of Wheels,
on new or old Carriages, (with or without
patent or close boxes,) Coaches, Omni-
buses, Heavy Wagons, Artillery,
Dray Carts, &c., of every description.

THIS NEW AND HIGHLY USEFUL INVENTION FOR CLEAN-
ING AND OILING WHEELS, is all the more desirable for its sim-
plicity, cheapness and durability.

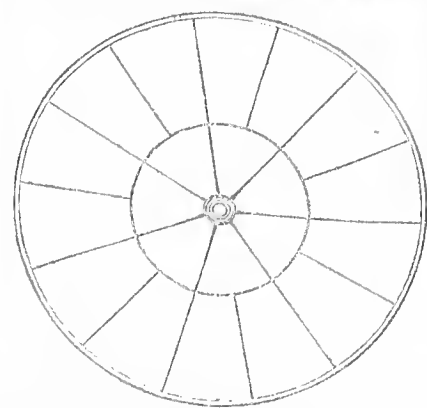
Without taking off the Wheel, the Axle is
Cleaned and Thoroughly Oiled in
ONE MINUTE!!

The oil is applied freely to the axle within the hub, and by a simple arrangement the socket tube (which is always kept open and clear) while the old worn oil WHEEL GREASE IS EXTRACTED AND REMOVED by the same turn of the screw which opens the socket to receive the fresh oil—and that, too, without the necessity of lifting the axle or taking off the wheel. It is but the work of a moment now to oil the wheels of a carriage, and a mere child can do it. By using this Patented Oil Socket and Axle Cleaner, there is no more lifting, depressing, or dirty work! This is novel and useful, truly—for no other invention on carriage wheels in any country has ever succeeded in accomplishing this. In a few years without this new oiling attachment, in any State or Kingdom in the world where this patent is now secured, or shall be introduced, it is evident the satisfaction, and thousands express their admiration and say how often they had thought of, and desired some such quick way. Many declare that it pays for itself twice a year, by saving time, labor and horse flesh.

To keep well oiled the wheels of mule and chaise, and to do it often in haste, is a part of the tollsome drudgery of life. Carriage Builders will find it for their interest to immediately secure the right of applying this Oil Socket to the Carriages and Team Wagons manufactured in their establishment, as it must entirely supersede the old method of oiling and cleaning wheels. This is a safe, lucrative and permanent business in any and every

place. Every town and county in the whole country must have an Agent, or owner of exclusive Right, under these Letters Patent, for Exclusive Rights for States, Counties or Towns throughout the United States, address
DR. A. C. GARRATT, Boston, Mass.
OR, W. ARTLAND BOVEY, Cleveland, O.
October, 1855.

SHELLY'S PATENT WHEEL.



THE UNDERSIGNED, having bought the entire interest from the Patentee of this valuable improvement, begs leave to inform the Coach-Making public that he is now making extensive preparations for their manufacture, and will be ready in a short time to furnish the craft with a wheel which, for beauty of form and durability, CANNOT BE SURPASSED.

By this improvement, the hub has only half the usual number of mortises cut in it, and the long spokes may have requisite shoulders at their ends adjoining the hub, so that they may be well supported in the hub, and prevented from working or becoming loose therein. At the same time, the felloes composing the rim are well supported, as the usual number of spokes are inserted in them, the ring or band allowing the requisite support to be given the felloes by means of the short spokes, and also diminishing the number of mortises usually made in the hub. Thus a strong and durable wheel is obtained, the spokes are well supported by a ring or band, and prevented from twisting or bending when the tire is shrunk on the rim. Small hubs may be used and the cost of manufacture will not exceed that of the ordinary wheels.

Orders are solicited.

Address: D. TILTON,
J. B. OLIVER, Agent,
Brooklyn, N. Y.
October, 1855.

**Oldest & argest Establishment
of the kind in the United States.**

All persons engaged in the above business, can now have the opportunity of introducing their houses to over *twelve thousand* Coach-Makers throughout the United States and Canada by advertising in the COACH-MAKERS' MONTHLY MAGAZINE, a Journal which is devoted exclusively to the art of coach-making in all its various branches. This is the only medium through which such houses can advertise to good advantage.

Standing advertisements \$12.00 per square for one year; (twelve lines making a square,) payable within three months from the time of first insertion.

All advertisements for a shorter time than twelve months are charged 50 cts per line for each insertion; *Payable in advance.*

28 Cannon Street,

BRIDGEPORT, CONN.,

EVERY VARIETY OF PLATED Trimmings for Coach, Calash, and smaller Carriages, Fine Coach Lamps of various patterns, Bands, (new styles,) Handles, Curtain Rollers, Mouldings, Pole Crabs and Hooks, Buckles, &c. &c. Any of our Trimmings, Plated in Silver, Brass, or Princes' Metal, are warranted to give satisfaction.

Bridgeport, Conn., July 1855.



And Manufacturers of
COACH & SADDLERY TRIMMINGS,
Cook's Improved Carriage Knobs,
AND FINISHING SCREWS,

Nos. 2 and 3 Japanned and Silver Cap'd Carriage Knobs, Spring Catches, Door Handles, Inside do., Scroll Top Board Handles, Calash Trimmings, Card and Name Plates, Lining Band and Saddle Nails, with amended points—Top Props and Nuts, Bolts, Rivets, Hub Bands, Shaft Pins, Pole Hooks and Crabs, Self-adjusting Saddle Trees,

R. A. H. W. A. Y., N. J.,
Manufacture every variety of Car, Carriage, Buggy, Sulky, and
Seat Springs, from the best quality of Steel.
A trial of our Work is solicited.
E. HAYDOCK, Proprietor,
J. GATCHELL, Agent.
July 1855.

CHARLES PEARL,
Brass & Silver
CARRIAGE BAND
MANUFACTURER,

423 & 425 MAIN STREET,
POUGHKEEPSIE, N. Y.

I AM CONSTANTLY GETTING UP NEW AND
tasty Designs for Carriage Bands, which for Beau-
ty and Chastity cannot be rivalled. Any new pat-
terns made by sending me a description of them.

Also manufacture the celebrated Princes' Metal Bands.

Also manufacture and have constantly on hand a large and well seasoned stock of Bent Felloes, Shafts, Poles, and Turned Spokes of the different varieties of Wood, and Seat Rounds of every style.

TERMS—Six months for approved paper, or five per cent. off for Cash.

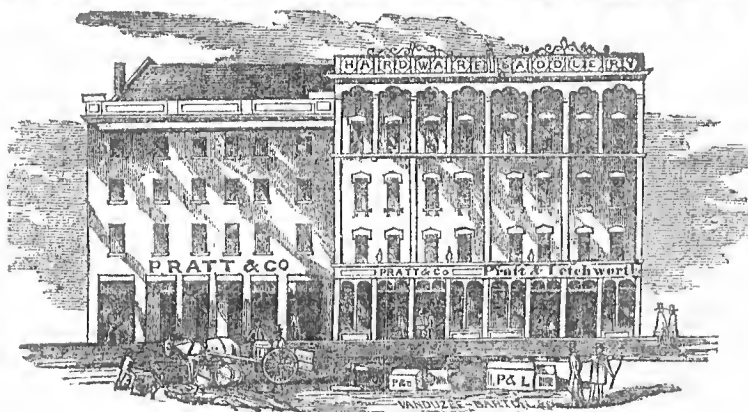
N. B. None but dealers supplied.
July 1855.

SAMUEL F. PRATT.

PASCAL P. PRATT,

WM. P. LETCHWORTH.

PRATT & LETCHWORTH.



MANUFACTURERS, IMPORTERS & DEALERS IN EVERY DESCRIPTION OF
SADDLERY, COACH & TRUNK HARDWARE,

Have removed to the Buff-Color Brick Store, No. 34 Terrace Street,
Opposite the Western Hotel, and adjoining the Hardware Store of Messrs. Pratt & Co.

BUFFALO, N. Y.

[June 1855.]

CHAPMAN'S
Elastic Anti-Rattling
CARRIAGE SHAFT FASTENER.

IT IS ONLY ABOUT THREE MONTHS SINCE I FIRST PRESENTED this valuable invention to the public. It is unanimously recommended in the highest terms by every person who has tried it—already hundreds of certificates from Carriage Makers and gentlemen of the first respectability, who are daily using it, in the Eastern, Western and Middle States, can be shown, cordially recommending its use by every one—it being an attainment long desired. If applied to an old or new carriage, as directed in the instructions accompanying each package, I warrant it effectually to stop all rattling noise near the shaft bolts; and it will **PERMANENTLY** prevent the bolts from loos, should the nut drop off.

A trial must convince the most fastidious. It is all I represent is to be. ~~My~~ My terms are CASH.

Wholesale, to Carriage Makers.....	\$12 per doz. sett.
Retail " "	\$2 per sett.

All orders promptly filled. Address
WM. S. CHAPMAN, Patentee and Proprietor,
Oct. 1, 1855. Cincinnati, O.

Corner of Broadway & Ashley St.

WOODBURN & SCOTT,
Proprietors of Blanchard's Patent.
 Manufacture with care, of the very best
 timber, the following Articles :

Spokes of white oak and hickory, of all sizes and patterns, from 1 cts. to 5½ cts.
Wagon and Buggy Singletrees, Neck Yokes and Spring Bars, from 12½ to 15 cts. each.
Pick, Sledge, and Hammer Handles, from \$1 to \$1 50 per doz.
Bent Heel Shafts at 60 cts. 3 pr.
Bent Carriage Poles, 75 cts. each.
Bent Felloes, 1½ in. and under, \$1 75 3 set; for each additional 1½ of an inch, 25 cts.
Buggy Bows, 75 cts. per set.
Wagon " 50 " "
Morticed Hubs, " 5 in. \$1 25.
" " 5½ & 5½ in. \$1 40
" " 6 & 6½ " 1 50
" " 7 & 7½ " 1 80
" " 8 to 9½ " 2 00
" " 10 to 11½ " 2 50
" " 12 to 13 " 2 80

Unmorticed Hubs, \$1 to \$2.
Effort will be made to keep a supply of the above articles always on hand.
N. B.—The highest price paid for Oak and Hickory Spokes and Plank. None but the best quality of timber will be received.
Aug. 1855.

JOHN TENNIS & CO.,
IMPORTERS AND WHOLESALE DEALERS IN
COACH AND SADDLERY HARDWARE.
No. 25 Water Street, Cleveland, Ohio.

HAVE ALWAYS ON HAND A FULL STOCK OF EVERY DESCRIPTION of Coach Trimmings, embracing the latest and most approved styles and patterns, which they will sell at New York and Philadelphia prices—consisting in part of—

Enamelled and Oil-Dressed Leather;
Dash, Collar and Fancy Enamelled;
Enamelled Cloths of all kinds;
Wood Work of all descrip-
tion; Cloths, Damasks, Cott-
lines, Silk and Worsted Laces, Tas-
sels, Silk Fringes, Carpet, Oil Cloths,

Buckram, Moss and Hair; full assortment Props, Turned and Plated Collars Stump, Joins, Ivory Nails, &c., &c., &c.
JOHN TENNIS. D. A. DAngler.
Oct. 1855.

June 1835.] SPRING PERCH COMPANY.
B. STERLING, Sec'y.

PLATE XXI.

SALADER'S MAGAZINE

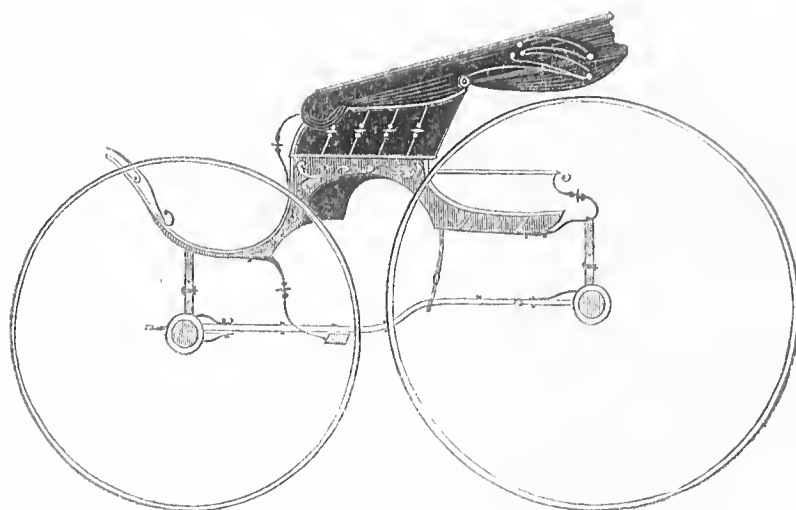


Fig. 55.—New Orleans Buggy.

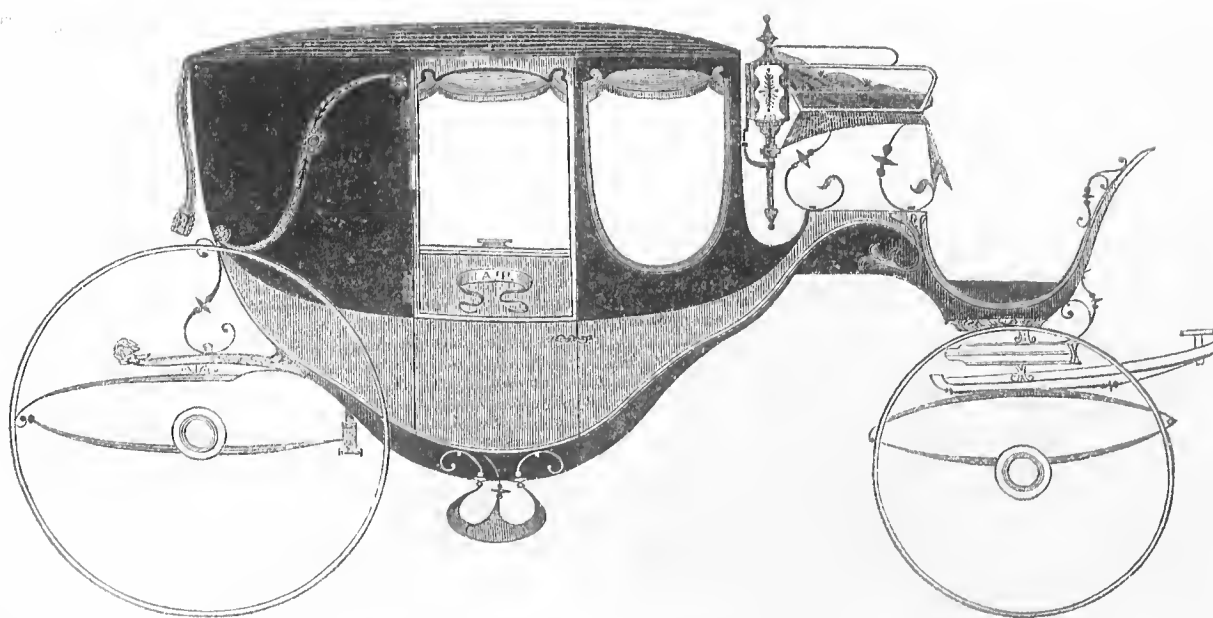


Fig. 56.—Close Coach.



NEW YORK, NOVEMBER, 1855.

PLATE XXII.

SALADINE'S MAGAZINE,

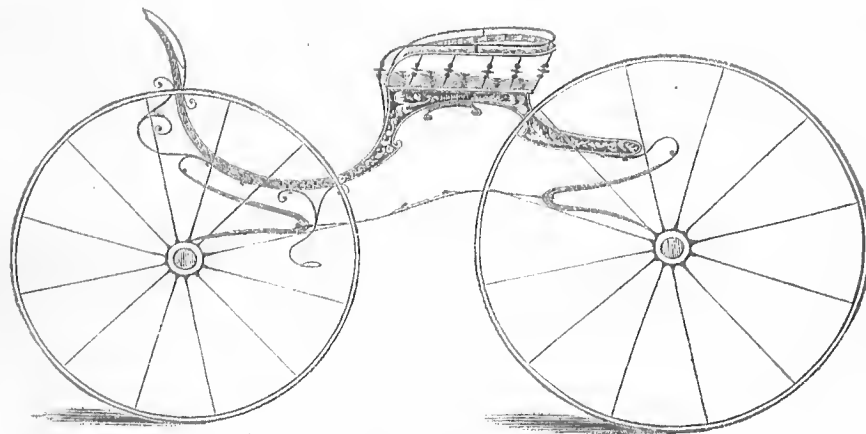


Fig. 57.—New Haven Buggy.

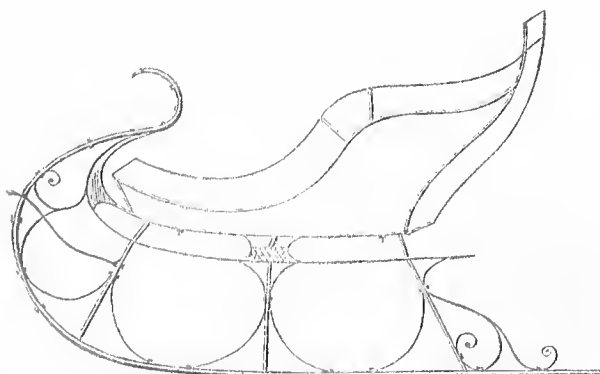


Fig. 58.—A Common Cutter.

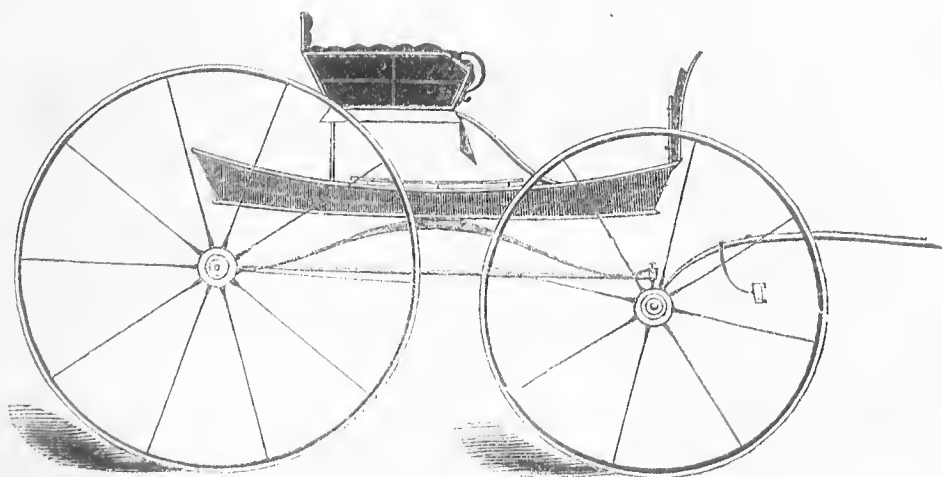
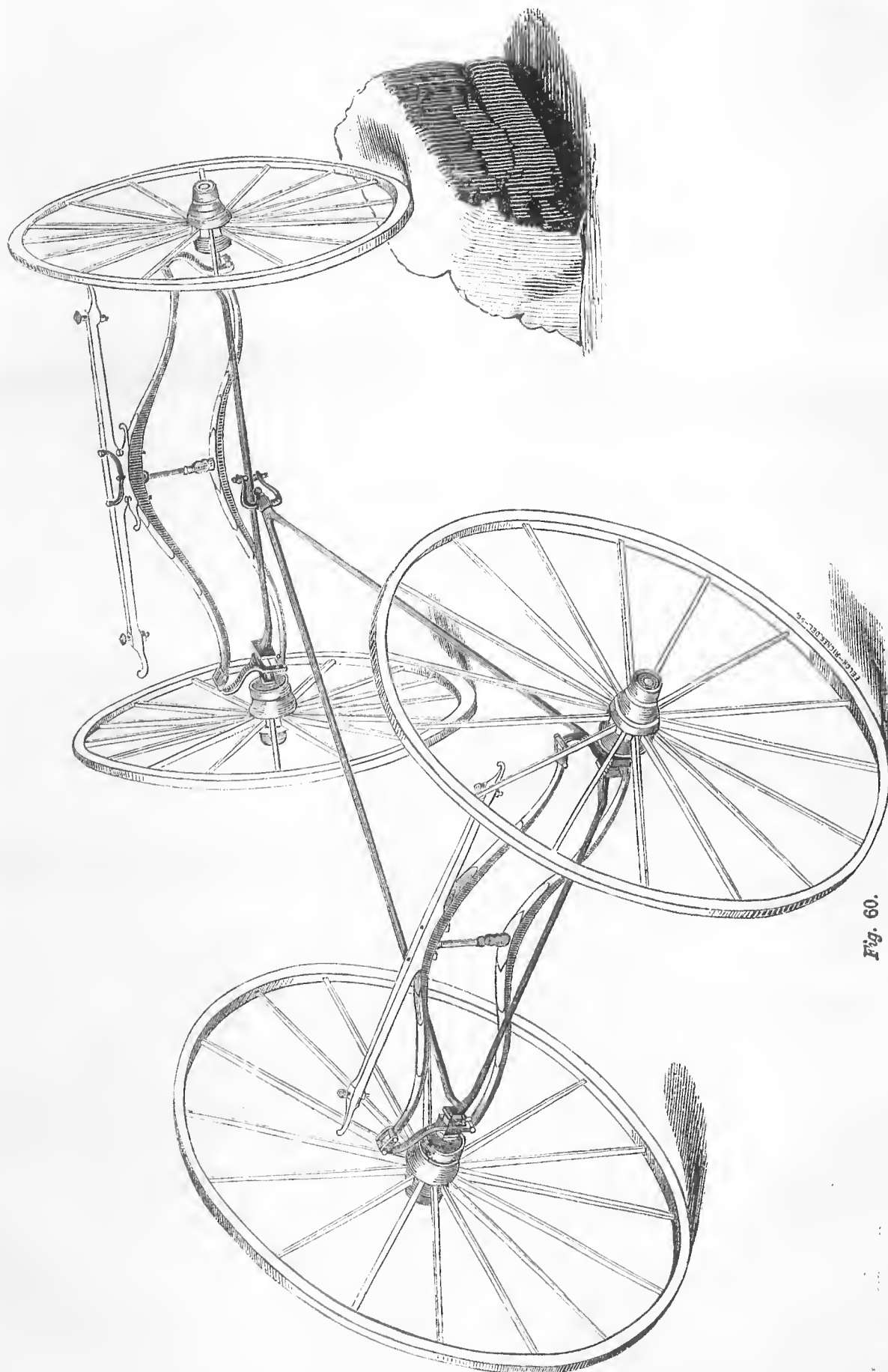


Fig. 59.—Concord Wagon.

NEW YORK, NOVEMBER. 1855.

PLATE XXIII.

SMITH & McNAUGHT'S IMPROVEMENT.



NEW YORK, NOVEMBER, 1855.

THE COACH-MAKERS' MAGAZINE.

C. W. SALADEE,

EDITOR and PROPRIETOR.



VOLUME I.]

NEW YORK, NOVEMBER, 1855.

[NUMBER 11.]

TERMS:

Single subscription one year	- -	\$3 00
Clubs of three	" - -	8 00
" " six	" - -	15 00
" " ten	" - -	20 00

Payable in advance.
All Clubs, however, must be sent to one address.
Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented stamped on the cover in gilt letters. All communications must be addressed to the Editor, at his residence, Columbus, Ohio.

Office of the Coach Makers' Magazine, New York, 106 Elizabeth St. E. M. STRATTON, Assistant Editor, and Agent for N. York.

Office of the Coach Makers' Magazine, Columbus, Buckeye Block, Broad Street.

EXPLANATIONS OF THE DRAFTS.

FIG. 55.—NEW ORLEANS BUGGY.

MR. EDITOR:—With your permission I will contribute to your deservingly popular Magazine one of our New Orleans vehicles. The body is solid side with carving and moulding as represented in the drawing. The rocker to this body has two arches, the object of which is, viz: to admit the wheel running under the body as far as possible when turning, and 2d, the arch immediately back of the step permits the rocker to extend back into the main arch of the side, and thus hide the naked or open appearance which it would otherwise assume; (the black space representing the extension of the rocker into the arch;) it also gives a chance for a box from the inside of the seat.

The seat is also solid pannel, with spindles bradded on as illustrated. A buggy rack is elevated over the back of the body. I think this is preferable to the ordinary way of extending them back of the spring. In the above plan, beauty is added to the general appearance of the body by the application of the rack, if properly constructed and applied. R. D. M.

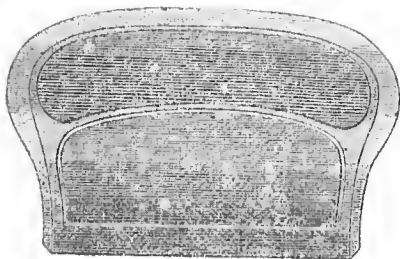
For Saladee's Magazine.

FIG. 56.—CLOSE COACH.

The contributor of this magnificent drawing is from our general agent Mr. Abram Terrill, and by whom it was designed and drawn expressly for the Magazine.

This coach, we think, is sure to meet a hearty welcome by every proprietor in our ranks who is engaged in the manufacture of this denomination of work. We have never seen a design more splendid in appearance or complete in outline than the one we here present to our readers.

An explanation of its manner of construction we consider useless, as every person who has the necessary qualifications for the construction of this class of work asks for nothing more than a side elevation, and sometimes with a front and back view, and even the latter we do not think necessary in the present case.



The above is a front view of the Dash, showing the style of finish, division of pannels, &c.

For Saladee's Magazine.

FIG. 57.—NEW HAVEN BUGGY.

This beautiful no top buggy we received through one of the largest carriage establishments in New Haven, Conn., and have attached it to Sprout's combined Springs and Coupling, believing it would not only add to its beauty but also to its practical worth. We have, as we have before informed our readers, these springs in constant use, and are becoming more attached to them, owing to the perfect manner in which they operate. To give a general description of this buggy would only prove a waste of time, as the drawing itself fully explains all that is desirable. The seat is made round and left open, with an iron railing forming handles at each end. The body is carved as represented the entire length.

FIG. 58.—A COMMON CUTTER.

The body built separate from runners, and fastened by two bolts on each side, as represented in engraving. The sides are made of $\frac{1}{2}$ in. bass wood, spring out at pillar some two inches; pannel on front extending out to fenders and finishing at body as represented in drawing. By adding about 8 inches in length, could put in extra seats and have good room for four passengers.

For Saladee's Magazine.

FIG. 59.—CONCORD WAGON

MR. SALADEE:—While rambling through many portions of New England, the question was often asked me why you did not give a cut of the above named wagon. I answered many of your subscribers it should be forthcoming. Enclosed you have the real fac simile of a Concord Wagon, taken from one built in Concord to order. This style of wagon is generally used throughout New England. I found many that were greatly attached to this one particular style, giving them the preference over all others. From the manner in which the springs are arranged, they are capable of carrying either a light or heavy load, and with either they ride very easy. Having tried them I speak from experience. Yours, T.

SMITH & McNAUGHTS IMPROVEMENT ON THE MURGARTROYD SUSPENSION PATENT BUGGY.

Patent applied for both in the United States and Canada.

Fig. 60 is a correct illustration of the original Murgartroyd improvement, known as the *Murgartroyd Suspension Patent Buggy*, consisting of four half elliptics applied in the manner represented by our engraving with two material exceptions, viz: the application of the swivel joint (A) by which either of the front wheels are permitted to raise or fall to any extent without the least strain on the perch and braces.

This swivel joint, if not provided for, would in a short time wear loose, (owing to the perpetual friction to which it is exposed,) and thus create rattling. To obviate this two elastic washers are employed as follows: One is placed between the shoulder of the arm, passing through the swivel, and the butt of the latter, and the other in front, against which the nut holding the joint together is tightened. Thus the rubbing parts are prevented from coming in contact, therefore, no friction worthy of mention is created, and consequently no wear.

Many attempts have, to our knowledge, been made within the last ten years to perfect a joint for this connection which should accomplish the same ends as the one here illustrated, but all those experiments so far as we have the means of knowing, proved fruitless. The one here represented, however, is a model of perfection for this important joint.

The other improvement claimed is the joint (B) in the perpendicular standard between the springs. In Murgartroyd's patent this standard is stiff, and in case the weight suspended upon the springs come to bear heavier on one end of the spring bar than the other, it will be observed that this stiff standard would spring, and sometimes bend, it therefore becomes apparent that a joint was necessary at this point, so as to relieve the standard from the strain above mentioned.

We have seen the original Murgartroyd buggy, and a few days ago had the pleasure of seeing one of Smith and McNaught's buggies with the above improvements attached, and are free to say that we consider the discovery they have made in this buggy the financial point of perfection, and furthermore that we would be quite unwilling to purchase the right of Murgartroyd

Suspension Patent Buggy without the improvements of Smith & McNaught attached to it.— For without it we do not consider the original patent complete, nor perfect in its operations.

The Coach-Makers' Magazine.

MAY, - - - - - 1855.

FAILURES IN COACH-MAKING.

Our attention was directed to the subject which forms the title of this chapter, by an old and much esteemed friend from Philadelphia, who has been for many years engaged in the saddlery and coach hardware business. Being in Columbus a few days ago, he very naturally concluded to call on his young friend the editor of the Coach-makers' Magazine.

In the course of our conversation he made the following not very pleasant yet truthful remark, viz: "Now, Mr. S., since you assume the position of editor of a mechanics' journal, devoted to coach making exclusively, it is presumed that you are sufficiently posted upon all subjects pertaining to the trade, to render you capable of answering any question that may be proposed, touching the occupation to which your Magazine is devoted. Therefore, placing you upon that ground, I will ask you to explain a little matter which has always seemed a kind of mystery to me, or the real cause of which I have never been able to comprehend, viz: Why is it that we find a greater number of men in your ranks who have failed or are continually failing in business than in any other of the mechanical branches? I have been a close observer, he continued, of these things for the past twenty years, and am fully satisfied in my own mind, that if all the men in mechanical pursuits who have failed in business could be named, it would be found that the coach-makers (in proportion to numbers) would have the majority by a large per centage.

Now, what is the cause of this? Is it for want of a ready demand for their productions, or is it because they do not receive a proper compensation for the same. It can be neither; for I know the demand is great and the profit equal; that is, the profit paid on the original cost of carriages, generally speaking, gives as large a per centage as any other business of which I have any acquaintance. Then, if possible, let me understand in which part of the complicated machinery the screw is loose."

We answered our friend by showing him that this prevalent failure in coach making was owing almost invariably to the unqualified and inexperienced individuals who embarked in an enterprise so complicated, expensive and perplexing as that of coach making. And for the benefit of the younger portion of our readers, let us for a moment glance at the nature of the business, and we will be better able to understand the kind of individual required to conduct it with success. Coach-making in the fullest sense of

that term, signifies the combination of four distinct classes of workmen, viz: wood workmen, ironers, painters, and trimmers, and indeed in large factories the classification of workmen is still more numerous; as for example, body-makers, carriage-part-makers, wheelers, carvers, repairers, tiremen, body-ironers, carriage-ironers, fillers, painters, ornamenters, varnishmen, trimmers, stitchers and finishers. However, the four branches first above mentioned, are the different departments that must necessarily be conducted in the manufacturing of carriages. It therefore requires no argument to show most conclusively that it is a very complicated business.

In the next place, it requires a vast amount of capital to keep it moving; though it be on a limited scale. The materials of which carriages are composed, are all of the most expensive kind, and if the closest economy is not observed in their consumption, they are subject to waste and great loss. It is astonishing to note, even in a small business, the amount of materials it will consume in the short space of one year. There is the timber, iron, axles, springs, patent and enameled leather, laces, cloths, brass and silver mountings of various kinds, paints, oils, varnishes, and a number of other articles too tedious to mention, all of which are expensive and universally cash articles. But this is only a part of the expense attending the construction of carriages. We have yet to count the cost of labor in the different branches, which of itself will run up a high figure in the course of the year, be the business large or small. When we come to look all these things fairly in the face, we are enabled to comprehend why it is that coach-making is so extremely expensive. And, lastly, it is a perplexing business, and in proof of this assertion, we have only to refer to the great amount of attention it requires on the part of the proprietor in selecting and providing the necessary materials for the different departments of the factory, to obtain proper workmen; must see that they are regularly paid, whether the productions of the factory meet with a ready demand or not; he must see that his work is properly managed in each branch, that good work is produced; perchance he employs a poor workman, or an impudent one; must perform the unpleasant task of discharging him and of finding a substitute, which latter may prove to be the same character or perchance worse than the one just turned away, and his delightful task must again be repeated; must attend to selling, trading, buying, and in short must do every thing, be every where and all at the same time; meanwhile he must be a close calculating sort of genius, that he may see clearly the result of every step he is about to take before he advances, otherwise he may step in the soft and mirey places, from which he may find it very difficult to extricate himself, and perhaps before he is hardly aware of his situation, he will (using an Indiana phrase,) find

himself wofully swamped. This, reader, is coach making in its true character.

It therefore becomes apparent that in order to conduct it with perfect success, the proprietor must possess the following acquirements, viz:

1st. He must be a practical and experienced workman.

2d. He must be enterprising and industrious.

3d. He must possess a proper capital.

4th. He must be a close calculator, possessing a correct knowledge of trading.

5th. He must be a good salesman, (much depends upon this accomplishment.)

6th. He must exercise firmness with kindness in the government of his hands. The latter very soon loose confidence in a proprietor who trifles with them, makes promises which he is afterwards careless in fulfilling; being of one mind to-day and another to-morrow; fly into a passion at some trifling circumstance, and speak of it frequently to some of the other hands in the shop; take a dislike to a certain hand; speak of it to others but never to him. Such a proprietor is very like a general at the head of an army who justly hate him and are ready at any moment to desert him. But on the other hand a prudent man will pursue a different course; he comprehends the great truth that *union is strength*, and therefore he will ever strive, by a steady, firm, prompt and pleasant course towards his hands, to gain their confidence and respect. His success depends materially upon the operation of his hands, hence it is of the utmost importance that a proper government be established. If his hands are for him, and feel an interest in his welfare, he is comparatively safe; but if he give them cause to hate and turn against him, having lost all confidence and respect for him, his kingdom, (theologically speaking,) is divided against itself and cannot stand.

7th. He must be prompt in all his business transactions; it is useless to argue the importance of this duty in every business department.

Coach making, notwithstanding it is a complicated, expensive, and perplexing business, is nevertheless as profitable as that of any other, (and in many instances more so) if properly conducted, and a man who can command the above requirements cannot but succeed.

There is an ambition prevalent among the young and inexperienced portion of our fraternity, which in our estimation accounts for the greater portion of the failures in coach making; and that is the universal anxiety among young men who are just out of their apprenticeship to start shop on their own responsibility. They embark without taking the least thought as to the responsibilities it does really impose upon them, also without the aid of the least capital or experience, in short without the attainment of any of the acquirements which his position calls for. Thus unarmed and unequipped, he launches his frail bark upon the tide of business, and ere he has got the timid vessel fairly afloat, he

observes a leak, and while he is endeavoring to repair it another is produced from an unexpected cause, and before the second can be righted a third and larger one is sprung, followed by a fourth. His troubles thus multiplying thick and fast, without the necessary implements to remedy them, his fate is sealed, his bark sinks, and lo! he calls aloud to his friends for help.

Thus it is that coach making has so frequently failed, and a bad report has gone forth, whose influence operates materially against the craft in certain quarters.

Now, it is the height of folly for a young man who has a good situation, to abandon it before he has acquired proper experience, for no better reason than that of operating on his own responsibility. He is almost sure to fail in the undertaking, involve himself and perhaps his best friends in difficulties from which there is no chance for escape. We repeat what we stated in the August No. of the Magazine upon this subject, that the task of the employed is easier than that of the employer, and that the mere reputation of doing business on one's own account is a consideration too trifling to influence a wise man's decision, and we may add, that until he is satisfied he possesses all the required accomplishments to superintend a business properly, he should decline embarking in the enterprise, or in other words, remain on the *safe side*.

OUR FIRST PEEP INTO CANADA—THE CRAFT, &C.

Having, as we believed, recovered from a prolonged and serious attack of that now prevalent plague in the West—the *ague*—we started on the 8th day of last month (Oct.) on our usual trip to New York City. Arriving in Buffalo just in time to miss a connection with the cars going east, and the shores of Canada being in sight, we resolved for the first time in our life, to cross over and spend a day in Brantford, a town eight miles distant on the Buffalo & Brantford R. R.

After a journey of about six hours, which proved somewhat tedious, we reached the point of our destination, and to our pleasing astonishment, we found the imaginary village to be a large and very rapidly increasing town. That spirit which is visible only in enterprising communities seems to be the leading star of this people:

In this location there is but one carriage establishment, which however, is conducted on quite an extensive scale. Its proprietors are Messrs. SMITH & McNAUGHT, superintended by Mr. COLLVER, which latter is an experienced and practical coach-maker. This establishment seems to be in a flourishing and prosperous condition, finding a ready demand for all its productions, and at prices which fully justifies the expensive manner in which the work is finished, and also the enlargement they contemplate making in their business.

This country and its inhabitants remind us

very much of the Southern States in general; unlike the Northern and Western farmers (who ever seek for an article in the way of a carriage for the smallest sum possible, or in short something cheap,) they can find nothing too good or fine, and it is no common occurrence to see an old rusty looking farmer, so to speak, (who from external appearances we would not suppose possessed a single dollar,) step into a factory and order a carriage that some of our wealthiest citizens might well envy. With such a people to work for the carriage manufacturer as well as other mechanics can but prosper.

In this factory we had the pleasure of inspecting thoroughly the Murgartroyd Suspension Patent Buggy, (referred to in another part of this No.) and in the course of our investigation we made several experiments, which convinced us that the Buggy in its original form embraces several imperfections in its operations and mode of construction, which in our estimation renders it anything but a *real* improvement in carriages, which we will take occasion to speak of hereafter.

Two of those imperfections are obviated by the improvements Messrs. Smith & McNaught have added, as illustrated in this number.

We find that this right of Murgartroyd's patent has been extensively sold throughout Canada West, and to certain factories, at prices so extravagant as to excite our wonder and lead us mentally to inquire whether the purchasers have as closely examined all its mechanical operations (previous to buying) as judicious, careful and prudent men should do? We have failed to see a satisfactory answer in the affirmative. But on the contrary, it is evident that such an investigation is not generally made by some of our brethren, else they would certainly not be guilty of paying so much for so little.

While in Brantford we were informed that it was but four hours ride to London, a city in C. W., of which we have often heard glowing accounts, and especially as regards the extent of our own craft, thinking that it would detain us but one day longer from pursuing our route to N. Y., we started for London. This is truly a fine city, and apparently inhabited by a people who are determined to make it worthy of the name it bears.

Carriage manufacturing is being conducted on an extensive scale by some five or six different establishments. We had but time, however, to call upon three of them, viz: R. McGILLONCH, W. McBRIDE & Bro., and D. J. McPEARSON. The former gentleman seems to be the most largely engaged, his factories are very large and admirably adapted to the business. The smithshop which is built separate from the main building is as appropriately arranged as any we have ever before seen, and the productions of this factory, generally speaking, are not surpassed. Messrs. McBride & Bro. are devoting their whole time and attention to the manufacturing of light fancy work. Mr. Moore, formerly of

Bridgport, (and a son of the *Emerald Isle*) is the foreman of this establishment. We have not lately come in contact with a brother chip, who seems to possess a more thorough education in the art than does Mr. M., of which fact our readers will presently be convinced as well as ourself, from the inspection of certain drawings he has kindly offered to contribute to the Magazine.

The factory of Mr. McPearson, is also one of considerable note, but it is not confined to carriage work exclusively, part of the factory being devoted to lumber, Wagons &c., which is a practice, we find quite common among the Canadian carriage-makers. From London we again returned to Brantford, when we were introduced to Mr. P. B. Hayden, and P. C. Vanbrocklin, (which gentlemen we mentioned in our last number as the proprietors of a patent wheel, which is to be manufactured at Cleveland, O., and Brantford, C. W.) on which occasion we had the gratification of inspecting their improved wheel; the result of which has left a favorable impression on our mind. Believing that it is the strongest, and yet the lightest wheel we have ever seen, and if after a practical investigation, it should prove to be all that is claimed by its inventor, it must eventually come into general use.

On Friday morning, the 12th, Oct., we took our seat in the cars bound for Buffalo, and from thence to our original destination (N. Y.) But ere the whistle gave the loud signal for departure, our old adversary made his unwelcome appearance in the car we occupied, and laid hold of us in a manner so violent as to cause gnashing of teeth, and a *shaking* like a slender branch in the breeze. This state of things compelled us to retreat, (an act we much despise.) When Mr. John M. Collver, (foreman of Smith & McNaught's establishment) kindly offered us the hospitalities of his home, where we remained for the most part, confined to our room until the following Tuesday one o'clock P. M., when we felt sufficiently recovered to pursue our journey to Buffalo; but on arriving at the latter place we found that we were unable to make our tour east, consequently we returned to Columbus without accomplishing the object for which we started. We shall remain under lasting obligations to our newly made friends, Mr. Collver and his kind lady, for the close and careful attention they bestowed upon us, while lying sick in their midst, and hereby tender them our most heartfelt thanks, with the assurance that they shall ever be kindly remembered by the *editor of the Coach-Makers Magazine*.

Flowers' Contributions, No. 5, is received, but not in time for this number; will appear in our next.

Mr. G. S. Haussknecht's communication referred to in our last has also failed to reach us in time for this month.

ONE MORE NO. AND THEN.

One number more and the present volume of the Coach-Makers' Magazine is complete. We look back upon the social intercourse that was existing between us, and our host of readers for the past year with a pleasing remembrance, and one that shall be lasting. We fancy that the labors of the coming year will be entered upon with a merry heart,—a cheerful sky, and a smooth sea before us.

By this expression, we do not wish to be understood as advocating the idea that (in-as-much as the waters are smooth, and the sky looks bright and cloudless in the misty future,) we will, or can fold our arms in idleness. Far from it. But on the contrary, we are thereby encouraged, and stimulated into new life and vigor, and we shall embark in our enterprise for the coming year if possible, with a determination more deeply rooted to make our journal *superior* to that of any other in the mechanical branches, either in the United States or Europe; and for the benefit of the craft in the latter country, we shall republish the new volume in London, (having secured the copy right both here and there, and though large as our circulation is at the present time, by this arrangement we shall be enabled to more than double it. With a correspondence that such an army of coach-makers must necessarily throw into our sanctorum; would it be an exaggeration on our part, to promise additional interest and attraction in the forthcoming volume? We think not, and make it without the least fear of failing in the attempt.

In starting with the present volume we informed our readers that it was our determination to improve the interest of the Magazine as we progressed therewith. But, reader, have we done this? Take the file of your numbers from this one back to the first of January, and we are heartily willing to leave the result of such a perusal to answer in our stead.

The first number of the new volume will be ready for circulation on the 15th of next month, and to all of our old friends (and new ones) who have so generously assisted the progress of the Magazine by forwarding clubs, and think it right and proper to do so again, we would say, make up your number for the club as soon as possible and hold the names in readiness to be forwarded immediately on the receipt of the next number, which will be accompanied with blanks and envelopes for the purpose, and you will be sure to have the Jan. No. '56, in advance of New-Year's day.

We earnestly request the members of our fraternity both in the States and Canadas, who have concluded to go with us and for us, in the new volume of the Magazine, to signify it by sending their orders immediately on the receipt of the December number. By pursuing this course, we will be enabled to know from the start, the extent of the family we will have to provide for through the coming year. And in turn, none

of them shall be disappointed in receiving regularly and in good order from our wide spread table, the monthly feasts we have in store for them. Will our friends make up their minds and respond with one accord to this *important* request—important because they should receive the numbers regular and in rotation as they are published—and important because we should understand the extent of our business in the beginning.

See prospectus in another part of this number.

TRIMMING DEPARTMENT.

In this number of the Magazine we have after some delay, commenced the illustration of trimmings, and which we will endeavor to keep up in all of the forth-coming No.'s. It was not until very lately that we were enabled to effect an arrangement with a practical carriage trimmer who was capable of drawing, to edit the trimming department.

Mr. McLANE, of N. Y. City, has been engaged to conduct this part of the work, and he promises to give our readers something every month that will represent the newest and most approved styles of trimming carriages, buggies and the like.

The annexed figures represent the latest fashions for a trimming in close and open Rockaways:

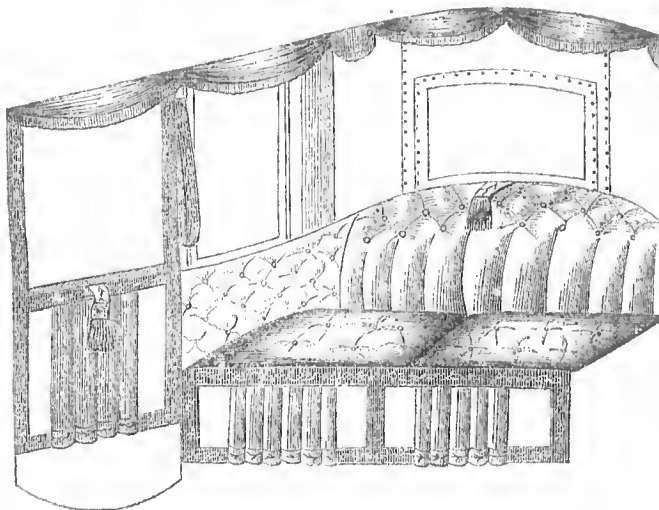


FIG. 1.

This engraving represents the interior of a close rockaway, showing the style of work &c., which will be readily comprehended by the workman.

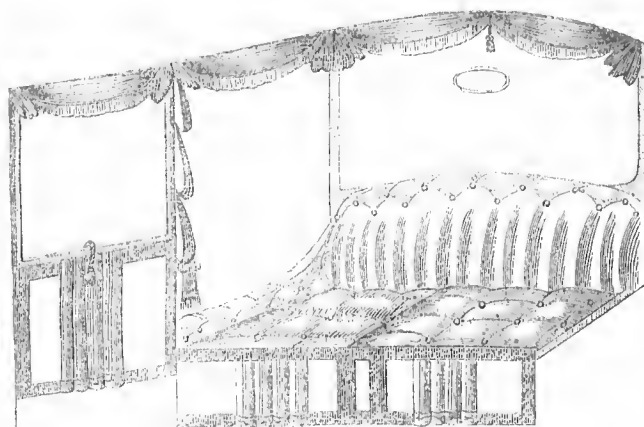


FIG. 2.

Interior view of open rockaway showing a fashionable and approved style of work in the trimming. Leather is most generally employed in this class of carriages.

In our next we will illustrate the trimming of a winter carriage, or in other words, a winter trimming with improved style of cushions, &c.

For Salladee's Magazine.

THE MAGAZINE—VALUABLE INVENTIONS, &C.

MR. EDITOR:—I have just received the August No. of the Magazine, and hasten to subscribe, that I may not miss receiving the volume of so valuable a work complete. It is to me (and doubtless hundreds of my fellow craftsmen,) a source of great satisfaction and pleasure, to see a medium established in the midst of our fraternity through which our fellow craftsmen can apprise each other when a *humbug* or swindling scoundrels are afloat in the land, or in good faith declare to each other the utility of any invention or improvement which they consider worthy of patronage. Thus we are saved of all deception and imposition; and I would suggest that no new improvement be countenanced until it has been introduced to the craft through our Magazine, and its utility tested and endorsed through the same medium, by some of the practical brethren, or the editor thereof.

I perceive by the Aug. No., that you have tested and illustrated a carriage spring invented

by E. S. Sprout, who was at the time of the invention a citizen of our place. Relying upon your recommendation of this spring, I felt no hesitation in testing them myself, and having done so, I feel it a duty I owe to the inventor of an improvement so valuable, and especially when I consider the years of toil, study and money it has cost him to bring it to perfection, and also to my brother mechanics, to state through your valuable journal, that in my estimation, this spring is far ahead of the old (and as you say) well tried elliptic, and which is a fact that every man of candor must admit after he has tested them.

The mechanical operations of this spring are most admirably adapted to carriages, and never before has perfection been attained in this branch of the vehicle. And the ingenuity that Mr. Sprout has manifested in this improvement alone,

recommends him to the fraternity. But since there is no risk on the part of the craft to test this spring for themselves, every one can with safety do as I have done, viz: give them a trial.

In conclusion, allow me to express my approbation for the able and independent course you are pursuing in the editorial department of the Coach-makers' Magazine. Exposing and recommending wherever you sincerely think it called for, without the least respect for persons. Thus we can have the utmost confidence in your much needed publication.

Yours truly,
HENRY CLEMONS.
Montrose, Pa., Oct. 1855.

THE NEW TRIBUS.

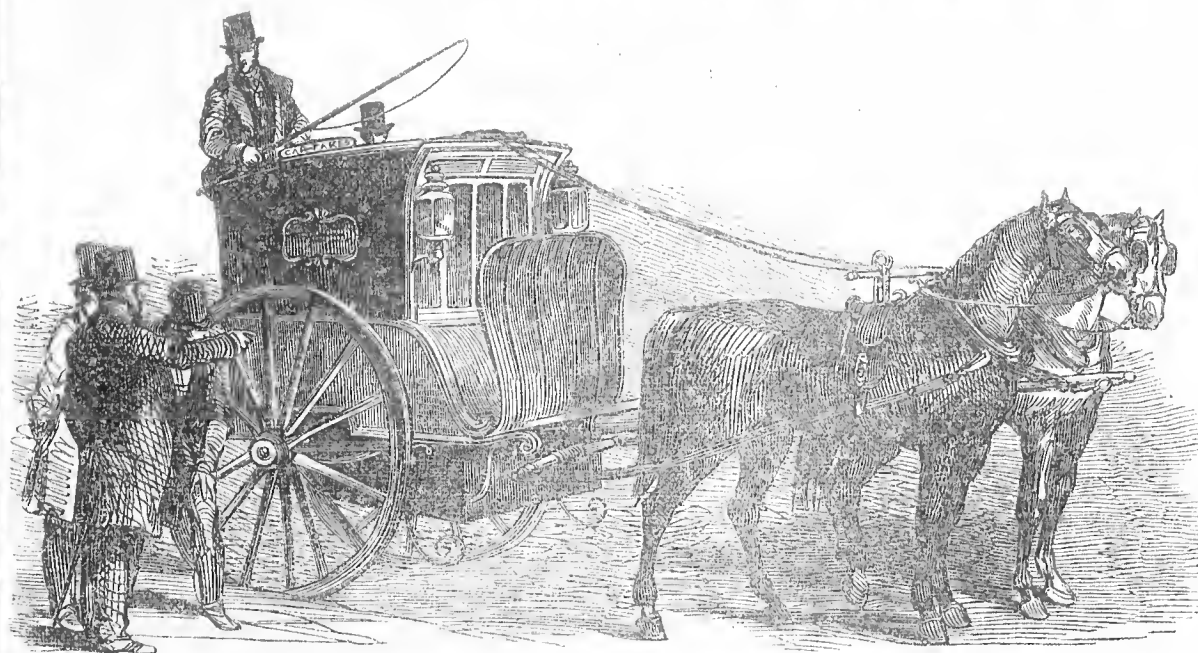


FIG. 1.

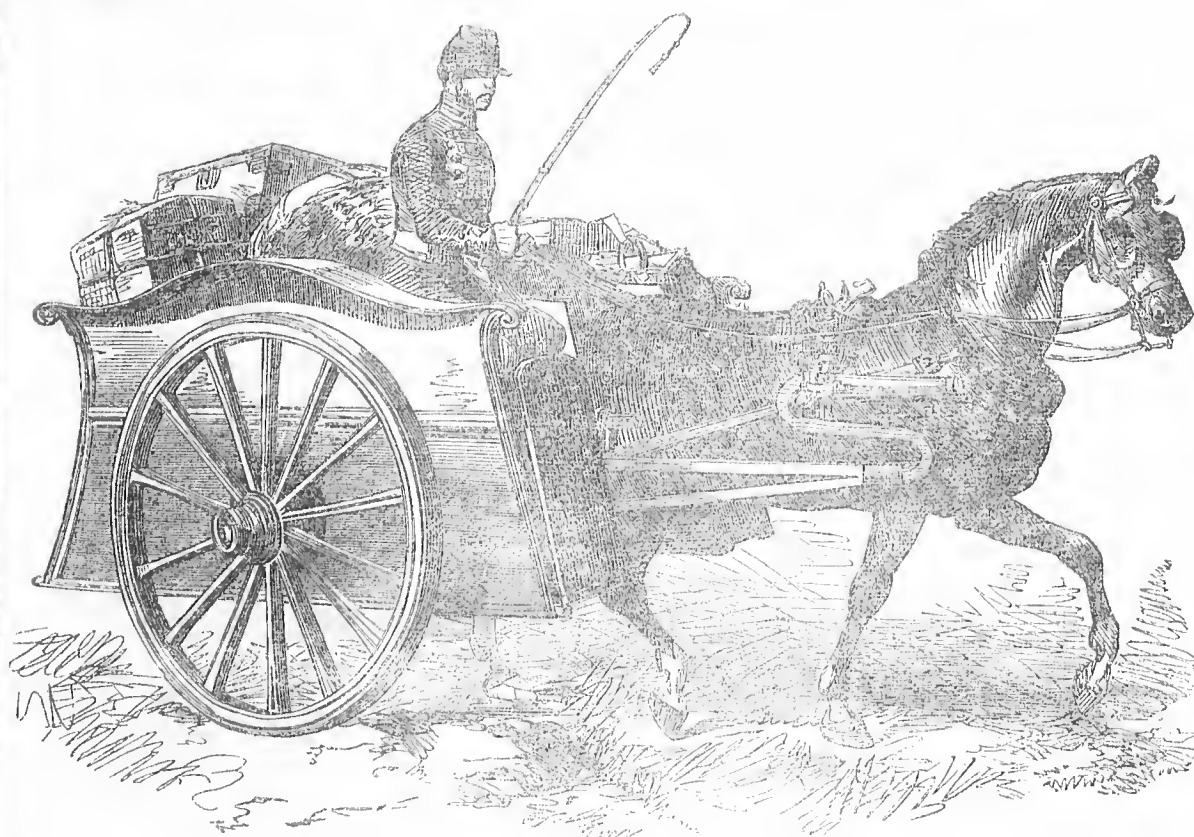


FIG. 2.

This new public carriage, patented by Mr. Harvey, of Lambert House, has made its appearance in the streets of London. Our illustration shows the vehicle *en grand tour*. It is open in front, like Hanson's patent cab, and has seats for three persons, the driver sitting at the right hand corner, and the conductor to the left of the door.

It is drawn by two horses, across whose backs is the horizontal steel bar, which formed a feature of the caparisoning of carriages of old. The carriage is handsomely appointed, and besides

the shutter windows in front, has side windows filled with ground glass. Although drawn by two horses, cab fares only are charged by this new tribus.

FIG. 2.—PATENT BAGGAGE CAR.

Our illustration is a portrait of one of these useful carriages which we believe are in course of erection for the seat of war. It is in its supposed military capacity that our draughtsman has made a soldier its driver. But though doubtless of great service in any country, the seat of

war, where carts are seldom to be had, and none that can be relied on to carry great weights, rendering it necessary for government to provide ample cart conveyances for its armies. Still it is rather in being a cart for general use that its great value consists; seeing that, besides meeting the wants of the gentleman, the sportsman, and the farmer, it has already commended itself to the emigrant and the colonist, as well as to the tradesmen of London for their uses. The patentees state that the peculiar construction of this car enables the horses in working to develop his powers to the fullest extent, whilst that of the springs, (which admit of regulation,) enables them to sustain almost any weight that can be placed upon them. This construction causes them, when duly adjusted, to spring equally with the greatest weight that the carriage can be expected to bear, and that of one person. The power of regulating the springs also enables the drivers to adapt the power of either spring to the due sustaining of the weight to be carried, so that although the load on one side of the car may be, for example, a full cask, and on the other side an empty one, the proper horizontality of the floor will be preserved.

COACH HARDWARE AND TRIMMINGS IN CLEVELAND, OHIO.—Those of the craft who make Cleveland their point for the purchase of stock, such as Hardware and Trimmings of every description, will please remember that there is but one respectable and extensive house in that city, viz: John Tenis & Co., No. 25 Water street, where will be found every article used in the construction of carriages, and on terms that will render entire satisfaction to the purchasers.

E. M. STRATTON.

This gentleman, who is a practical coach-maker, and one of long experience, has consented to assist us, so far as his time will permit, (being engaged in the manufacture of carriages,) in the editing of the Magazine, and to whom we have given the sole agency of New York City for the sale and distribution of the same, and all other business pertaining thereto in said city. Therefore all subscriptions in the above location will be paid to him at our office, 106 Elizabeth St. Orders from all other territory must be addressed to us at Columbus, Ohio.

CONTRIBUTORS TO THIS NUMBER.

E. M. STRATTON, of N. Y.
 ABR'M TERRILL, of N. J.
 W. H. SAUNDERS, of N. Y.
 HENRY CLEMONS, of Pa.
 E. S. SPROUT, of Pa.
 B. McCROHER, of Mo.
 R. D. MUNSON, of La.
 J. D. McLANE, of N. Y.

ANSWER TO CORRESPONDENTS.

P. T., of Ill.—If you will consult the advertising department in this number, you will find all your inquiries answered, concerning English Varnish, &c.

S. L. B., of Ohio.—We cannot furnish you with the information you desire. A letter addressed to the editor of the Scientific American would receive a prompt answer respecting your railroad car improvements.

R. N., of N. Y.—Yours is received, and shall be attended to in time for the next issue.

L. & O., of Mich.—The leather manufactured in Cincinnati, Ohio, bears a good reputation, generally. However, we have never seen as fine an article as that manufactured in Urbana, Ohio. You would do well to give the latter a trial.

R. C. S., of Mass.—We have never seen the patent wheel you refer to. The only patent wheels of which we have any knowledge are those of Hayden, C. W., and Shelly, of N. Y. (that is of late origin.)

P. W. A. & Bro., of Ohio.—We are using Chapman's Elastic Shaft Fastener, and heartily endorse all its claims for it.

C. W. N., of Mich.—We are not quite sure that your coupling will accomplish all you claim for it. Could answer you more definitely if we could see the model. You are aware, no doubt, that there are three patent couplings already in the field, all intended to accomplish the same object, viz: turning short without the fore wheel coming in contact with the body while in the act of so doing. It is true yours seems to be more simple in construction than those already in use, but whether the fifth wheel on top of the spring will not be an objection on account of its large diameter, remains yet to be decided. Should be pleased to see your model.

P. D., of La.—Your article and drawings are just received. We are obliged to you for the compliment, but must decline publishing it as it has not exactly the right tone.

FOREST CITY BENDING FACTORY.

Messrs. Wheeler & Waters, of Cleveland, Ohio, have just opened a large factory, which is to be devoted entirely to the manufacturing of spokes, hubs, shafts, poles, axles and all other wood work belonging to the running part of a carriage. Having the most complete facilities for executing the work in every department of their business, and being located at an admirable point for shipping their productions in every direction, will enable them to furnish the craft with stock of this kind at rates, and on terms the most favorable.

They are *gentlemen* in the fullest sense of the term, and well qualified for the task they have undertaken.

See advertisement.

THE BACK NUMBERS.—We promised in our last to forward back numbers with this issue. But sickness on the part of those engaged in the work has delayed it. However they are nearly completed and shall be mailed without fail on the *tenth* of the present month. (Nov.) and should it so happen that we miss some of our late subscribers, they will please inform us of such fact, stating the No.'s missing, and we will attend to them immediately.

Two New York city buggies in our next; also something new in the way of an English Phaeton; another improvement illustrated in wheels, &c.

DELAWARE SPOKE AND FELLOE FACTORY.

It will be seen by referring to our advertising department, that our old friend and brother craftsman, John McElroy, of Delaware, Ohio, has sold out his carriage factory, and is now turning his whole time and attention to the manufacturing of every description of bent and straight stuff used in the construction of carriages, all of which he is determined to sell to the craft on terms that will make it an inducement for many of them to extend to him their patronage. See advertisement.

Mr. J. S. Siscoe, of Xenia, Ohio, has, from some cause best known to himself, failed to furnish us with the model of his coupling for illustration in this number of the Magazine.

PAINTING BY A PAINTER.—NO. 1.

Under this head we commence to publish a series of articles on the subject of coach-painting from the pen of a brother craftsman in Mo., who seems to have had considerable experience in the art. We give the same a hearty welcome to our pages (notwithstanding his observations may differ widely from our own, and others who may consider themselves accomplished in this branch of the coach,) and we doubt not but the majority of painters will be benefitted thereby.

For the Coach Makers' Magazine.

Supposing that each and every one who may read this and the following articles, have in their possession receipts which they consider as infallible in our branch of the trade, and should any of the following recipes conflict with them, no practical wrong is intended, but bring forward your objections in a friendly and generous manner, and through the pages of our Magazine let the craft judge of the respective merits *pro* and *con*. Of course there must be difference of opinions, and various reasons might be assigned for them. Take, for example, a painter who has learned his trade in the east, and his notions will be entirely upset out west. The eastern jour by experience knows that the stony streets would soon shake off all the putty he might plaster over his felloes, and works accordingly, while the western jour with the dirt road and streets with no stones for his work to rattle over makes it a point to "plaster" his felloes just as smooth as putty will make them. Well, both of them are right, but place the eastern painter in the western jour's place and it would almost be like learning over again to either of them. Or again, in the eastern States among painters the grand desideratum to be guarded against is "cracking," while west and south the leading feature of a painter's ambition is to produce work "proof" against blistering. The same materials may be used by both of them; the same precautions taken to insure a good job, yet how often it happens that we see good painters fall through while they themselves are at a loss to account for the reason, and out of half a dozen reasons for failure, probably none of them would be correct. Having worked for a number years both east and west, and having paid great attention to all that pertains to the painting branch of the craft, I feel quite sanguine that the remarks I may offer will have some weight with you, and propose through the pages of this Magazine to offer the result of my personal experience in regard to

painting, confining my remarks principally to the body painting, as almost every coach-painter is fully competent to finish a running part, intending to offer some recipes and remarks in regard to ornamenting and heavy work; in short, every part of body painting will be treated on from first to last.

To proceed with business. Priming leads of course. But the many different modes of mixing it, each one of which has its advocates, renders it almost unnecessary for me to offer any remarks on the manner of mixing it. However, on heavy work, such as coaches, &c., the old fashioned plan of white lead and oil (linseed) will be found to be the safest and best; during damp weather it may take a little longer to harden and dry, but it is sure to be the best plan in the end. Sometimes on light work such as buggies, &c., some slip in a little japan and turpentine with no great injury to the work; others again use one part of drying (or boiled oil) and two parts of linseed oil (raw); but it renders the work much more liable to crack and peel off, painted in this manner. If painters generally were but to look at the nature and properties of boiled oil, soon it would be numbered among "the things that were." Let any one take a small piece of wood and paint it in the same manner, viz: lead color, filling and varnishing as would be done on a carriage; give it a heavy coat of boiled oil, and place it in the sun for a few hours and the effect will be to prove that all the paint beneath it will shrivel and crack; the cause will present itself to every practical painter at once.

Let boiled oil be confined to the house painting craft for whom it was originally designed, and not continue to find favor among us; causing, (as it often does) the condemnation of other materials that are entirely harmless. Some use it to mix "stripping" color with, but a small quantity of sugar of lead is far superior, used with raw oil; it will dry in three hours in spite of the rain and weather, besides working much easier and making an even line. We now come to second coating, or as some call it, lead color.

But before I proceed I will make a remark here, that all painters should regard as the most essential rule of the business, which is always to make sure that your work is perfectly dry and hard, which can never be the case while the least stickiness or softness is felt on passing the hand over it, or still better, scratch with your finger nail the surface of the work; if it comes off under your nail, leave the work stand until it gets entirely hard. The neglect of this is one of the principal causes of paint and varnish cracking and coming off. But to proceed. The lead color is prepared as follows: Supposing we are about to mix a quart of this article; first take about two-thirds (wet) lead and one-third japan; (if it is a good article of japan take less;) mix in lamp black and turpentine until it is of the thickness of cream, grind it through the mill and add turpentine to suit. Some use it without grinding, but the time lost in doing so is more than compensated by the absence of the lumps and grit which is always found in the lamp-black, and it works more free. For a heavy job the addition of a small quantity of oil is much better, but for light work the first mentioned is most generally used; taking care to fill all the nail and screw holes with this coat that may have been overlooked in priming. Now, (unless it is a heavy job, which should have one more coat of the same) we come to "puttying up." Among all the endless varieties which find favor among painters, none is so much used, or considered superior to the dry lead putty which is found to be the best article, as it combines what is most required, viz:

drying hard and firm, not swelling and shrinking. To mix it, take a quantity of dry lead, placing it on the stone proceed to mash it up very fine, then lay nearly one-third of it to one side of the stone, and in the remainder pour enough japan to make it into a soft mass, then roll it in the remainder of the dry lead until it gets thickened; take a hammer or mallet and pound it until it gets soft again, repeating the operation three or four times, until all of the material is in one mass; having beat it until all the lumps are gone; which can be readily ascertained by feeling it, take the lump and holding it under water, work and knead it for at least ten minutes, and you have the genuine dry lead putty. Some put lamp-black in it, others add a little varnish, yet both are injurious, the lamp-black containing an oily substance which prevents the drying, and the varnish although useful when "plastering" is necessary, tends to make the putty swell and push itself out of the large holes. For plastering we should always recommend taking some of the body putty and mixing it with a little turpentine. One great complaint among painters is, losing the strength of the hand and fingers, and sometimes a partial loss of the use of them. Of course I know that the cause is produced by the paint and other things connected with the business, but if you but knew that the principal cause was when puttying, we know they would take more care to avoid the consequences. Some painters while engaged in puttying, constantly are working the lump of putty which they hold while doing so, and a more hurtful practice could not be indulged in. The lead by being so worked and kneaded in the fingers, works into the pores of the hand and gets under the nails, and all the lead they would inhale in a month would not injure them one third so much as the previous mentioned habit. The lead taken into the stomach eventually works its way through, while the lead that the skin absorbs, remains there, hence the many complaints originate we hear painters complain of. When plastering, the material should be placed on a small piece of board and taken up and used by the putty knife and not handled at all, if possible. A very little practice will enable one to understand it. When you have done the job you should scrupulously wash your hands, taking care to remove all traces of the putty from them. (I have a recipe and a sure cure for this weakness, which I stumbled on in England. One of my hands was entirely useless from this very cause. Take a pair of old buckskin gloves and fill them with a mixture of cornmeal and potash, taking about half an ounce of the potash to a pint of the meal, and making it into a soft mass by the addition of common whisky, tying them on at the wrists every night, and in less than a week the happy effect will present itself. It may make the hands tender during the day, but the effect will be to draw every particle of lead out of the pores of the skin.) Leaving the body to stand for at least twenty-four hours after the puttying up, I then proceed to give it the last coat of lead color; some put in a little japan in this coat, but I should advise to give it the same as the previous coat; it may dry a little slower, but the lead will have more body to it. Putting japan in lead color every succeeding coat causes the rising of the grain when it happens to get rubbed through when rubbing down the filling; we have tried it often and always with the same results. Let any one try this and they will find that the addition of the japan will cause it and nothing else. The reason of this is that pouring the japan into it, it does not get so thoroughly amalgamated with the lead consequently the japan floating on the surface is

first taken up by the brush and laid on the work, and not having body sufficient to resist the water, the grain of course will raise and crowd up the paint.

Having got through with the lead and puttying part of the business, we will turn to the next requisite to go on with, viz: filling or rough stuff, as it is called by some. B. Mc.

RAMBLINGS.—NO. 5.

MR. SALADÉE:—My last left me within the walls of old Quebec, and I thought it might interest you and your readers to know how I scaled the walls of that ancient city, after seeing the sights, greatly magnified by hotel keepers and hackmen, not satisfied with once fleeing their victims. Travelers must all go to the falls, a place that would be interesting if there were a large quantity of water running over them, but as it is, will hardly pay for the trouble of a twelve mile ride over a much worn and very poor road, not to say anything about the carriage fee, and another broadside at your pocket-book by the hotel keeper. You are told you must imagine a large quantity of water pouring over the falls to make your trip the more interesting, which by the way should you ever cross the Alleghany at any point, imagine a large body of water flowing down the mountain, and you have the same grand and sublime view, that draws so many to that would be interesting place, if it were anything to compare with the justly celebrated falls of Niagara.

I should be most happy in sending a drawing of a thing used here called a *calash*, but am certain that to give you a sketch and have it properly engraved, would cost more than the original. I will only state that it is the most clumsy, awkward, and unsightly vehicle I have ever seen on wheels. Not so, however with all the carriages I saw there. I visited (Gingras', Verreil's and many other establishments in that city, and was much pleased with the style and manner in which the work, generally speaking, was executed, particularly the sleighs, which most attracted my attention, some of which were beautiful designs, and shall at some future day be represented in the drawing department of the Magazine.

Leaving Quebec I shaped my course for Montreal, where I found quite a number who were already subscribers to the Magazine, and obtained a large number more. I had the pleasure while here, of making the acquaintance of your gentlemanly agent (for Canada West,) who I have reason to believe will make a good report of himself by way of obtaining subscribers to the Magazine.

My trip from Montreal to Toronto by steamboat was a very pleasant one, save the canal part of it, with its seventeen locks to pass, which although tedious and slow, gave ample time to view the most grand and romantic part of the St. Lawrence River, the Rapids, &c.

In Kingston, I began to see the bottom of my carpet bag, notwithstanding this misfortune, I obtained quite a number of subscribers with the promise that the Magazine should be immediately forwarded. The same in Bath and other places I visited.

Those of your readers who are particularly acquainted with me, are aware that I am not in the habit of retreating when powder is being burnt. However, it was my fortune or misfortune to be in Toronto when the seemingly happy news reached the city that Sebastopol had fallen. My old white hat which was my protector through storm, sun and rain, was now an eye sore to the

rejoicing Canadians, for the reason, the idea is prevalent, that none but a Yankee will wear such a hat, and as such could not take any particular interest in the public. However, the hat and its wearer came off victorious, and after spending a few days more in Canada, had a pleasant sail across Lake Ontario, took a satisfactory peep at Niagara Falls and Suspension Bridge, two of the most wonderful curiosities in nature and art I have witnessed, and in due time find myself in the charming Capitol of the Buckeye State, comfortably seated at the elbow of the Editor in his pleasant sanctum, waiting further orders. ABB' M TERRILL.

Columbus, Oct '55.

SAUNDERS' CONTRIBUTIONS

No. 3.—Saunders' Improved Taper Axle, as Patented June 27th, 1854.



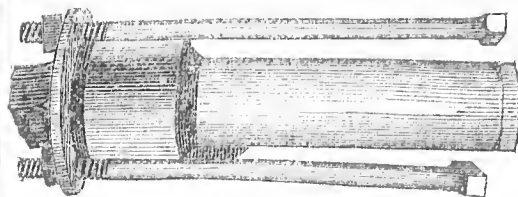
The common or old form of taper axle has two or three advantages which have caused it to be extensively used for many classes of carriages, particularly those of the cheaper kind. These advantages are principally—1st, simplicity, for it consists of only three parts, viz: axle, box and nut. 2nd—Length of bearing, which extends from the axle collar to the nut, and 3d—Power of relieving itself when from carelessness or any other cause it has been sufficient to run dry and is in danger of heating and swelling, for the box can shift laterally to a smaller part of the axle bearing, and thus give space for the grease, if any remains in the box, to flow and prevent dry grinding. These advantages are valuable, but are accompanied by serious disadvantages, for, first, having no provisions to deaden the lateral percussion of the box ends against the nut at one end and the axle collar at the other, a constant jarring or disagreeable rattling noise is characteristic of this axle. 2d, there is no contrivance to exclude road dust or retain the lubricating matter upon the bearing of the axle, the consequence of which is, that the grease escapes at each end of the box, and the road dust enters and causes a dry grinding of box and axle which rapidly destroys both. But 3d, the most serious defect of all, is the very frequent liability of the axle to break short off when in use, close to the inside of the collar, whereby the wheel becomes liberated, and the carriage and its occupants are thrown down, perhaps at a high speed, to the great risk of life and limb. This defect arises from the diminution of the square shaft when it is cut down at a right angle, in front of the axle collar, turned for the bearing. This bearing, in the old form of taper axle, never contains in its sectional area even at the largest part, more than three-fourths of the quantity of iron which is contained in the shaft at the back of the collar, a fatal error in proportions, which has caused the loss of many valuable lives.

My attention was directed to the contrivance of some mode of obviating these serious defects in this, otherwise useful axle, and the result was the production of the improved form of taper axle figured above, and patented June 27th, 1854. In this improved axle the collar is enlarged in thickness and diameter, and a groove cut in it to contain a strengthening part or enlargement of the axle bearing, the sectional area of which enlargement is made at least equal to that at the square of the shaft behind the collar, where an

axle scarcely ever breaks. This position of the strengthening part i. e. within the thickness of the collar preserves one prime excellence of the old taper axle, viz: the extreme length of its bearing from the collar to the nut, on which depends in a great measure the steady running of the wheel, as well as the durability of the axle and box, and it also gives space for a leather washer at the bottom of the collar groove to receive the pressure of the box end, and thus 1st, to make a good grease joint. 2nd—By overlapping the box end to exclude the road dust, and 3d, it prevents the rattling noise of the old form of axle. A similar provision is also made at the other end of the bearing where a ring or collar is cut out at the inside of the flange of the nut to contain a leather washer. This ring prevents spreading and splitting of the washer under the pressure of the box end, and this washer deadens the percussion at this end of the box, makes a good grease-joint, and excludes road dust.

The nuts were formerly made of brass, but W. H. S. introduced superior forms of malleable iron nuts, both square and six sided, got up tight and true, and this material has now entirely superseded brass for this purpose. The proportions of this improved axle both with regard to elegance of form and the indispensable condition of safety in use have been carefully studied. Grooves have been added to the outside of the box at its enlarged end, whereby it is easily fixed and firmly retained in the hub, and yet it is so small as to be suitable for the latest style of hubs, viz: 3½ in. diameter. As a whole, this axle, as manufactured by W. H. Saunders has won its way to public favor with a rapidity and an extent unexampled.

No. 4.—The well known and favorite Mail Axle with long bolts.

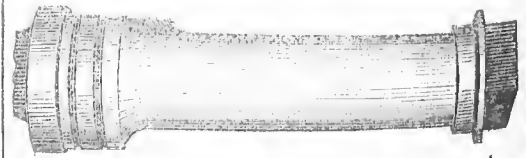


The manufacture of which was introduced into the United States by myself, and the axle and boxes subsequently improved by me. The chief peculiarities of the mail axle are, 1st, its great safety. This is produced by the principle (brought into use in this axle alone) of retaining the box upon its axle by means of bolts passing through the hub (outside of the box) from front to back, and through an iron plate or washer, where they are secured in position by nuts. This plate bears upon a turned part of the shaft at the back of the projecting axle collar, and also against a leather washer and inserted between it and the back of the said collar, whereby an oil tight joint is secured, and all lateral percussion, and consequently noise, prevented. The great safety of this arrangement becomes evident when it is considered that even if the axle should break anywhere in front of the collar, the box with the wheel in which it is fixed, cannot become detached from the axle, because it is retained upon it by the moon plate before referred to, which bears against the back of the collar and prevents the box from quitting the axle until the nuts on the butt end at the back of the moon plate are unscrewed. The bearing on which this plate rides, cannot break, because the sectional area is greater than that of any other part of the axle (except the collar) for its diameter must be at least equal to the diagonal of the square of the

shaft, and many instances can be referred to in which mail axles from imperfect workmanship, bad iron, or overloading, have been broken in front of the collar, and have been continued in use for weeks afterward; the wheel showing its distress by an unsteady, wobbling motion, but the cause of this has not been discovered by the owner of the carriage until it has been taken to the coach-maker, when on removing the wheel the fracture in the axle has been found. This very important and advantageous peculiarity of this axle, viz: its extreme safety from not permitting the wheel to become detached from the carriage even when the axle is broken has caused the mail axle to be a great favorite with the traveling public, particularly for the heavier class of carriages from our rockaways to barouches. Another peculiarity of the mail axle is, its being perfectly oil tight, retaining its charge of oil for several months, even when in constant use, thus being at all times ready for work and giving very little trouble to those who have the care of the carriage. That this advantage might be extended as much as possible, I first contrived an oil chamber additional to the one at the larger end of the axle box, by drilling out that end of the axle bearing which is farthest from the collar, and where it can be done with safety, (because the strain is chiefly about the collar.) In this manner a considerable addition was made to the space for oil, and also an additional half inch added to the length of bearing without adding to the length of box and hub, (which would be objectionable.) In addition to this I also in all mail axles made at my factory, form another space for oil in the end or plug screwed into the smaller end of the box, so that each mail axle of my manufacture has three distinct oil chambers, viz: one at the large end of box, one at its small end, and a third within the body of the axle bearing. This is one of the reasons why axles from this factory run so much longer than others without replenishing. The truly cylindrical bearing of the axles and accurate fitting and polishing of the inside of the boxes cause this kind of axle to run entirely without noise or jar, and with the smallest amount of friction even on the roughest roads. Another peculiarity in all the mail axles consists of three semi-cylindrical grooves cut on the outside of the large end of the axle box, parallel with its axis. These grooves contain the half of the thickness of the bolts which are laid in them, and thus the bolts not only act as additional lugs to secure the box in the hub, but they also pass through the spokes of the wheel at or near their roots, where little or no injury is done to them, whereas, in axles of other makes the bolts pass through the spokes near the circumference of the hub, thus materially weakening them by nearly severing them in two at their entrance into the hub. These lateral grooves, though included in Saunders' patented improvements on the mail axle of 5th of March, 1850, were first suggested as applicable to the common mail axle by Mr. E. M. Stratton, carriage-maker, No. 106 Elizabeth street, New York, and are received with much favor by carriage makers, for it is found that in addition to the other advantages the bolts can be let into the hubs in much less time than is required on the old plan. The reduction by nearly 1 inch of the length of the part of the bearing technically called the bevel (in which the inner surface of the box does not bear) that is, the enlarged diameter at the part of the axle collar, is equivalent to an addition of the same amount to the length of bearing, and is another improvement first contrived by myself. The effect is to assist materially the steadiness of the wheel.

These several improvements, combined with compactness of form and correct proportions, the result of much thought and extensive experience, have caused the American style of mail axle to surpass in every desirable quality its English antecedent, whose clumsy and awkward proportions become almost ludicrous, when compared with its American offspring.

W. H. S.



This is the old form of half-patent axle, improved in proportions, being reduced as much as possible at the large end of the box, having concentric grooves cut on the outside of the box whereby it can be firmly secured in the hub, requires much less than the usual amount of wedging, and being furnished with handsome light iron nuts instead of the old soft brass ones, this axle as now made, is preferred by many Coach-makers, because it can be easily and firmly fixed in the hub, has a long bearing, a small collar and box, and therefore is suitable for a small hub.

It is believed that the axles above described are the best kind in general use. They are made and fitted with the greatest accuracy and regard to finish in all their parts; they are thoroughly converted into steel on their bearing surfaces, by animal carbon and other matters, are manufactured from the toughest fibrous American iron, and are warranted in every particular, both as regards material and workmanship. Recent improvements in manufacturing processes have rendered the prices of these best axles so near to those of the commonest kind, that carriage makers who use the latter, particularly for ordered work, can scarcely be held to deal faithfully with their customers, who, placing implicit confidence in their integrity, expect them to furnish the best article the market supplies, and being for the most part unacquainted with the details of carriage work must necessarily depend on the honor of their coach-maker for the quality of the materials, and in the construction. The quality of the axles is a point of such primary importance to the safety as well as durability and comfort of a carriage, that if an axle break or fail in any respect, and it be discovered that the coach-maker has used an inferior axle when a better one could be had at nearly the same cost, his customer will be very apt in future to carry his orders to another establishment, where he can depend on a more faithful performance of an implied, if not expressed contract; and if limbs should be broken or life lost, from the failure in use of an inferior axle, the coach-maker who furnished it, and who cannot plead ignorance, for he knows, or ought to know the quality of the axle, for which he should have a guarantee in the character of its maker, will find himself ill at ease in his own mind, even if he should escape the reproaches of the sufferer and his friends.

W. H. S.

In the October No. of this Magazine, a correspondent who dates his letter from Sacramento City, Cal., gives the craft a very flattering account of the prospects for making money, that would attend any company that would now start the business of carriage-making in his locality. That he is merely prospecting as the miners say, is very evident in every line of his composition, and we predict that the company that undertakes the enterprise he dreams of, would get "the fits."

or in common parlance, "burst up" in less than two years, as they could not possibly compete with the manufacturers of older States. Every one in the trade knows that there is a vast difference in the wages paid to workmen in the two places; here the average is about \$150; in California (see Prices Current) it is \$5. Now, when we take into account the period of time which must necessarily intervene after purchase before the raw material, or stock, would assume the form of a perfected carriage, the high rates generally charged for freights, and the enormous prices for the labor, rents, &c., we are at once satisfied that from dreams of avarice, his presumptuous adventures would suddenly awaken to a sense of their folly.

Our friend tells us that fine top buggies sell for from \$400 to \$500 in California, costing in New York only \$200. This story reads very well in print, but the fact is, the very best New York buggies were selling for \$300 and less at the date of his letter, as is evident from account sales now before us, netting, after paying all costs to the shipper, less than \$200. The market then was so glutted that cheap, or what we call country made work, would scarcely sell at all, and when it did sell it proved a serious loss to the owners. We hope this timely and true statement of facts will be received with due consideration by all whom it may concern.

S.

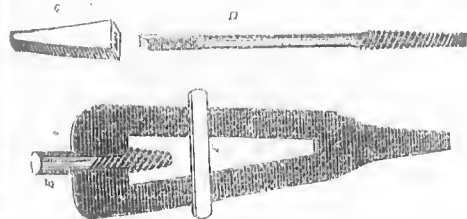
IMPROVED SCREW PLATE AND TAP.

MR. EDITOR:—As I am continually receiving benefits, by way of communications from our fellow craftsmen, at each arrival of your valuable Magazine, I feel in duty bound to the brethren of this fraternity, to contribute my mite also.

I have taken, and shall continue to take your interesting work so long as it is thus ably conducted, and permit me further to say, that any coach-maker who does not take the Coach-makers' Magazine, must necessarily be behind the times. Any one pretending to have any mechanical knowledge in the trade, who does not receive the monthly visits of your Magazine, may with truth be likened to the illiterate Dutchman who upon hearing of locomotives, telegraphs and the like, exclaimed, "I kares not vet you says mit dem dings, shust kive me mine cart und oxen for fast dravling."

But on receiving the valuable information it over contains, he will be as much pleased and surprised as was this same old chap when he came to ride in the cars, when his tune was changed to "mine cot! dis shmoke vaggon makes de drees, de fences and all dings go rite de order vay; Bill, put de oxen away; me rides on de shmoke vaggon chery dime."

But lest I weary your patience I will proceed to give an explanation of a screw plate and tap,



an invention I believe original with myself, hoping it may prove of as much value to my fellow craftsmen, as it has done in our factory. We have used this kind of plate and tap for two years, and find it peculiarly adapted to carriage making, especially in the ironing department.

We believe that no one doing even a moderate business, after knowing the value of this

instrument, would be without it for ten times its cost. By being placed in a brace any bolt or crooked clip can be cut, or in case a thread slips, it can be re-cut without removing it from its location. We use it in a lathe turned by water, and by an increased, reversed or backward motion, can cut 180 bolts per hour. Many things of far less value have been patented, and the right sold throughout the country, but this I freely give to the craft, in return for the information I am continually receiving from them, by means of contributions through the Coach-makers' Magazine.

A is a screw plate; B the bolt in operation of being cut; C is a holder for the brace to receive the top; D is the tap sufficiently small at the end to allow the burrs to be removed; E is the plate band which can be moved up or down, to vary the size of the bolt in order to fit different burrs.

E. S. S.

MISCELLANEOUS.

RAILROAD LYRICS.

Am—"Coming through the Rye."

If an engine meet an engine,
"Coming round a curve,"
If they smash truck, train and tender,
What do they deserve?
Not a penny's paid to any,
So far as we observe,
But all acquit the engineer,
When "coming round a curve."

If an engine meet a steamer,
"Coming through the draw,"
If they crush or drown the public,
Need we go to law?
If the engineer was careless—
Perhaps he's rather raw—
They don't discharge an honest fellow
"Coming through the draw."

If a steamer chase a steamer,
"Running up to time,"
If they bust their pipe and boiler,
Where's the mighty crime?
Should a jury in a fury,
Make them pay one dime,
Or send the officers to prison,
"Running up to time."

If they maim or kill a body,
Or a body's wife,
Need a body sue a body,
For baggage, limb, or life?
If you sue for damages,
For pay for what you lost,
You get a broken neck or leg,
And have to meet the cost.

A CONTRAST OF 1775 AND 1855.

CUSTOM IN 1775.

"Man to the plough,
Wife to the cow,
Girl to the yarn,
Boy to the barn,
And your rents will be meted."

CUSTOM IN 1855.

"Man tally ho
Miss Piano,
Wife Silk and Satin,
Boy Greek and Latin,
And you'll all be gazetted."

HAPPY HOMES.

"Always try to make home happy," said my aunt Ruth, with one of her benevolent smiles; you don't know how much depends upon a cheerful face and pleasant tone. Some people are constantly fretting and worrying themselves and those around them perfectly miserable. There's Mrs. Ellis, for example. Her house is kept in the nicest order, everything is like wax-work, but what a time the poor woman does have—forever scrubbing, scouring and complaining! She is always in an agony lest some one with dirty feet should soil her white floor, or a fly alight upon her delicate curtains. Her hus-

band is an easy, good-natured man; he can use no freedom in his own house without receiving a lecture, and her children are awkward and constrained. I called last week for the purpose of making Mrs. Ellis a friendly visit, and found her looking extremely dejected; I inquired anxiously if any of her family were sick, or if she had received bad news. No, nothing of the kind.

"I dare say you'll think me very silly," said she, "but I am heartily discouraged. It seems as if every thing went wrong with me. I am a perfect slave. I toil from morning till night, yet it does little good. My husband is so thoughtless and careless, and the younger children follow his example. Here I've been to work ever since morning, trying to put the house in order. I've scrubbed and scoured till my fingers are sore, and then to see how things are managed! After dinner Mr. Ellis came in from the garden with his boots covered with mud, and went stamping up stairs, scattering the dirt in all directions. He was in too much of a hurry to listen to my words, but went to our chamber to dress for a ride. When he was gone I ran up, and oh, what a looking place I saw! There lay the muddy boots in the middle of the room. Pants, coat and vest were scattered in different directions, and in the centre of a basket of newly ironed laces was his greasy old hat. My drawers were left open, and he had tumbled every thing over, trying to find a clean collar. Well, I went to work and put the room in order once more, then hurried down stairs to see what the children were doing. There sat little Edward upon the kitchen floor, amusing himself by drawing pictures on the nicely scoured boards with a bit of tallow candle. I declare I felt heartsick and angry besides, so I gave the child such a slapping that he has done nothing but cry ever since. I hope it will learn him better. I have just been scouring the floor over again, and I feel weary and discouraged."

"When Mrs. Ellis had finished the recital of her troubles, I endeavored to cheer her, and ventured to hint that her husband's habits might be reformed if she would take a little pains for that purpose."

"Oh, it's no use trying," she replied despondingly; "I've talked and talked until I'm tired of it. I have told him again and again that it is killing me—that I am fast wearing out, but my words make no impression. He will be careless. That is the worst failing Mr. Ellis has."

"Perhaps," said I, gently, "perhaps you are too hasty in your language. Men will seldom be driven, but you can easily persuade them. Now, Mrs. Ellis, if you speak mildly, and point out his errors in a spirit of kindness, I dare say he will try to please you."

"I know I have displayed some feelings of irritation," she said, "but such carelessness is very provoking."

"Your children are not usually mischievous, are they?" I inquired.

"No, not very. The oldest know better. They never dare to touch a thing without leave, but the others are too young to understand."

"Why do you keep them in the house, this fine weather, Mrs. Ellis?" I asked; "they would enjoy being out in the fresh air, and it would do them good."

"I know it," said she; "they sometimes run about in the yard, but they soil their clothes shockingly. I do love to see children neat, and mine won't keep clean if I allow them to play out of doors."

"I sighed, for I could not help it. The two little ones were standing at a window looking

wishfully at the soft grass and waving trees. I knew they were pining to be out in the sunshine chasing butterflies and plucking flowers, but, poor things, they would perhaps soil their aprons and injure their shoes. I left Mrs. Ellis with a sad feeling at my heart, for I plainly saw that hers was not a happy home. The perfect order and neatness were obtained at too dear a price. Her fretting and scolding, and discontented countenance, were fast alienating her husband's affections, and her children were suffering for a mother's tender care and gentle teachings. Alas! there are too many who are like Mrs. Ellis; too many whose homes are far from being happy, and the fault is all their own.

E. C. LOOMIS.

From the Scientific American.

INFLUENCE OF INVENTIONS ON SOCIAL LIFE.

The following is a condensed abstract of a recent lecture by James T. Brady, Esq., delivered before the Mechanics' Institute of this city, on the above subject. He began with an extract from a popular author who complains that history has been more employed in recording the crimes of ambition and the ravages of conquerors, than preserving the remembrance of those who have improved science and the arts. He said it is melancholy to reflect that the great mechanics who constructed the mighty works which yet attest the power and taste of Egypt, Greece and Rome, are nameless to their posterity. Where men have improved in comfort and happiness, it has not been by the action of government, nor any peculiar capacity of race, so much as by their own struggles against unjust restraints. Yet no political change could greatly ameliorate their social condition. This improvement was reserved for mechanical genius and skill, which we should appreciate more than any other people. We are full of notions, and especially inventive, and the consideration of this truth will prove more useful than many of our participations in the low strife of vulgar politics. Among the great inventions which affected man's general condition was the invention of gunpowder, which deprived the castle tyrant of his former audacious sense of security, and equalized the conflict of peasant and prince. The grim ruins on the Rhine, and elsewhere, illustrate this fact. The poet or romancer may sigh over them, but they show where civilization made its progressive steps. That muskets still enslave even those who carry them, shows the wonderful influence of discipline and authority. But mechanism will one day enforce its deserved function, and free the millions of the Old World. Then mankind will not, as at present, in Russia, perish to settle the disputes of diplomatists, or the struggle for "balance of power."

Discovery has been the grand means of improvement. The mariner's compass led to many blessings, including the addition of this continent to the known world. Steam yielded its countless benefits. It has brought our States into close association and sympathy. Printing, "the greatest of the arts," gave society voice and tongue. It spread knowledge far and wide; the people are heard in the best of histories—the hourly record of all that is done, felt, or thought, throughout the globe. The newspaper is the library of the poorest. But invention has cheapened and multiplied books, so that the labors of the greatest minds are accessible to the millions. Thus the Scriptures reach all mankind.

The genius of mechanics has supplied the greatest wants of both rich and poor. The an-

cients were not acquainted with the sweet associations of the fireside, for their houses had no chimneys. The companionship of the clock cheers and guides the humblest, not as in the year 807, when the King of Persia presented one moved by water to Charlemagne, or Pope Paul sent one to King Pepin of France, in 756. The invention of clocks belongs to the Saracens, but they are not now what was said of the instrument made by Richard de Wallingford, in the fourteenth century—miracle, "not only of genius, but of excellent knowledge." All Europe responds to the tick of Yankee manufacture. The daily laborer has a more comfortable home than sovereigns could boast of old. Beckett's splendid style of living, A. D. 1160, was described in this, that his sumptuous apartments were every day in the winter strewn with clean straw and hay.

After enunciating many additions to our comforts, resulting from inventions, and referring to the brilliant cheerfulness of the gas which illumines modern streets, he said that there was a lesser light, whose direct social benefit would make even the former lustre pale. Any one who remembers his sensations when he rose in the darkness of a cold night from a cosy bed, to strike a light with the patience exhausting combination of flint, steel and tinder, will be grateful for the beneficent inventor of lucifers and locomotives. He should have a grand monument. But mankind do not most honor those who shed light on the world. The victor whose deeds shroud a country in gloom, receives more applause. How beautiful, too, is that discovery by which the blessed sunlight has been allured by genius to perpetuate the faces of dear friends; and the genial influence of that artist of God, fertilizing what it falls upon, keeps their memory ever good in our love. But there was a nobler view of the subject he had in hand.—The triumphs of inventive talent have elevated the mechanic arts; and those who practice them. The artificer is welcome and honored in the associations of science. The labor of the hands has attained much dignity, and would receive more, but for a strange aversion to it, common even with us. The mechanic often sacrifices a son to obscurity in a profession for which he may not have aptitude or inclination. The eagerness to rush into the learned professions is fortunately receiving some check. To the genius, talent and industry, which mechanically apply the powers of nature in developing her resources, and the achievement of useful mechanical results, we may confidently look for the distinctive superiority of our people. Excellence in contributing toward this reputation should be esteemed second to none. And we should learn to think lightly of the mind or heart of him who would not cheerfully turn away from the exploits of Caesar, Hannibal, or Napoleon, to dwell with joy and emulation over the triumphs and the fame of Fulton, Whitney, and Morse. [Thus ended the lecture amid loud applause.]

MECHANICS.—St. Paul was a mechanic—a maker of tents from goat's hair; and in the lecturer's opinion he was a model mechanic. He was not only a thorough workman at his trade, but was a scholar, a perfect master, not only of his native Hebrew, but of three foreign tongues, a knowledge of which he obtained by close application to study during his leisure hours, while serving his apprenticeship. It was a custom among the Jews to teach their sons some trade—a custom not confined to the poorer classes, but was also practiced by the wealthy; and it was a common proverb among them, that if a

father did not teach his son some mechanical occupation, he taught him to steal. This custom was a wise one; and if the fathers of the present day would imitate their example their wrinkled cheeks would not so often blush for the helplessness, and not unfrequently criminal conduct of their offspring. Even if a father intended his son for one of the professions, it would be an incalculable benefit to that son to instruct him in some branch of mechanism. His education would not only be more complete and healthy, but he might at some future time, in case of failure in his profession, find his trade very convenient as the means of earning his bread; and he must necessarily be more competent in mechanical from his professional education. An educated mechanic was a model machine, while an uneducated mechanic was merely a mechanic working under the superintendence of another man's brain. Let the rich and the proud no longer look upon mechanism as degrading to him who adopts a branch of it as his calling. It is a noble calling—as noble as the indolence and inactivity of wealth is ignoble.—

Lecture by Rev. Dr. Adams, N. Y.

"OUR LITANY."

From all bores, backbiters, inquisitive people, tell tales, and hollow hearted evil doers, deliver us.

From long winded, prosy essays, harangues and hail storms, from high winds of adversity and rich relations, deliver us.

From whimsical wives, pet dogs and fashionable daughters and one hundred dollar shawls, deliver us.

From other people's babies and their mint stick, from harangues about smart children and their capers, deliver us.

From rheumatism and lumbago, quack doctors, drugs, pills and potions, deliver us.

From smoky chimneys, scolding wives and wash days, deliver us.

From amateur poets and love sonnets, dancing masters and fish hooks, deliver us.

From bogus money, delinquent subscribers and protested notes, deliver us.

From horse-jockeys, Yankee peddlars, street brokers and undertakers, deliver us.

From all kingcraft, withcraft and priestcraft, "Good Lord, deliver us."—*Brownsville Herald.*

A NEW CALCULATING MACHINE.

A Swedish gentleman, named Shutz, has invented a remarkable calculating machine, by which all the logarithms in Hutton's or any other tables, can be computed, registered, and stereotyped in the time that a compositor would take to set up the type,—about 250 figures being produced stereotyped on plates ready for printing in about ten minutes. The cost of its construction is much less than that of the machine invented by Mr. Babbage, and one of its most remarkable features is its simplicity. The arrangements of the various portions of the engine are admirably planned, and the mechanical contrivances are models of beauty and simplicity. The inventor is said to have spent the greater portion of his property in bringing his invention to perfection.

Queen Victoria's state coach is bullet proof, and the glass of the windows is six inches thick. When George IV. was fired at, the glass was only broken by the ball. In this coach, for some reason, and not as had been expected, in an open one, Louis Napoleon proceeded on his late visit to the Guildhall to receive the address of the corporation of London.

Prospectus FOR THE COACH-MAKERS' ILLUSTRATED MONTHLY MAGAZINE. SECOND VOLUME—1856.

THE FIRST NUMBER OF THE SECOND VOLUME of the COACH-MAKERS' MAGAZINE will appear about the middle of the coming month, (December.)

The Magazine for 1856 shall be devoted exclusively to the art of coach making in all its various branches, embracing the following heads:

- 1st—CARRIAGE DEPARTMENT—Explanations in wood-work—Ironing, with Illustrations—Communications, &c.
2d—TRIMMING—with monthly Illustrations.
3d—PAINTING—With practical observations from experienced Coach Painters.
4th—EDITORIAL. 5th—MISCELLANEOUS ARTICLES
6th—HISTORICAL.

To each of the above departments will be imparted an interest that will meet the most sanguine expectations of the different classes for whom they are intended.

Under the first head, will be given all the necessary explanations of the Drawings illustrated on the fashion plates in the wood department, together with the ironing, accompanied by illustrations, also communications, and the various rules and modes of building carriages, &c. &c.

THE TRIMMING DEPARTMENT.

This will be edited by one of the most experienced and fashionable Coach trimmers in New York City, whose services have been secured for one year from Jan. 1st, '56, who will furnish practical and fashionable illustrations for each number, with explanations of the same, &c.

PAINTING.

This department will be open to contributions from various coach painters whose services are also secured for the coming year. This part of the Magazine will be peculiarly interesting to the carriage painter in general, as it will contain from time to time practical observations from the most scientific coach-painters in this country. Much can be said and written on this subject with profit to the reader.

EDITORIAL.

The matter appearing under this head shall be of a character that will render it instructive and interesting to the craft in general.

MISCELLANEOUS ARTICLES.

Selected for the amusement of the reader, consisting of Poetry and choice miscellaneous reading.

HISTORICAL.

This part of our work shall be continued through the coming year, representing historical facts and illustrations of the ancient modes of locomotion in carriages, &c.

TERMS OF SUBSCRIPTION TO THE NEW VOLUME.

Single subscription, one year	\$3 00
Clubs of three	8 00
" " six	15 00
" " ten	20 00

Payable invariably in advance. All Clubs, however, must be sent to one address.

Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented stamped on the cover in gilt letters.

All Communications must be addressed to the Editor at his residence, Columbus, Ohio.

OFFICE of the COACH-MAKERS' MAGAZINE in Columbus, Ohio, Buckeye Block, Broadway.

OFFICE of the COACH-MAKERS' MAGAZINE, New York, 106 Elizabeth St., E. M. STRATTON, Assistant Editor and Agent for New York. All subscribers in the city of New York will please pay their subscriptions at our office as stated above.

CLUBS.—Any individual belonging to a Club and should change his place of residence after he has thus subscribed, can have his copy forwarded to any locality by notifying us of his removal, stating the Club he belongs to, &c.

O. W. SALADEE, Editor and Proprietor.

Nov. 1, 1855.

A SPECULATOR CURED.

Once on a time a country Dutchman early one morning went to town, where, by chance; he overheard some traders telling each other how much money they had made that morning by speculation; one of them had made \$100, \$200, \$500, &c. Hans' bump of acquisitiveness was so excited so that he without any reflection, forthwith concluded to leave his former business, which was labor, and to try his hand at speculation, and on his return home made his intentions known to his faithful yrow. Early next morning he gathered his wallet containing his funds amounting to five dollars, and off he goes post haste and half bent, to look up a speculation. He had not proceeded far when he met a wagoner, and accosted him thus:

"Good mornin'," Mr. Wagoner, I wants to speculate a little dish mornin' wid you." "Well, say," said the wagoner, "how do you want to speculate." "Vell," says the Dutchman, "I vill pet you five dollar you can't guess what my tog's name."

"Call him up till I look at hi," rejoined the wagoner. Dutchman. "H-e-r-e V-a-t-e-h, h-e-r-e V-a-t-e-h, h-e-r-e V-a-t-e-h." The dog trots up, the wagoner eyes him a moment and said "I guess his name is Watch." Dutchman: "O be sure Mr. Wagoner, you has won him, the mon- ish is yours," and Hans returned to his own occupation, perfectly satisfied.

QUICK WORK.

It was once the fashion to wear coats, the material for which had not long before been on the back of the sheep. For rapidity of work in this way, I know nothing that can compare with the achievement of Coxeter, of Greenham Mills, near Newbury. He had a couple of South Down sheep shorn at his factory, at five in the morning; the wool thus produced was put through the usual processes, and by quarter past six in the evening it resulted in a damson-colored coat, which was worn at an evening party, by Sir John Throckmorton. A wager for a thousand guineas was won by this feat, with three-quarters of an hour to spare. The sheep was roasted whole, and devoured at a splendid banquet. In one day they afforded comfort to both the inward and the outward man.—*Habits and Men.*

ADVERTISING DEPARTMENT.

TO COACH HARDWARE & TRIMMING MERCHANTS & MANUFACTURERS.

All persons engaged in the above business, can now have the opportunity of introducing their houses to over twelve thousand Coach-Makers throughout the United States and Canada by advertising in the COACH-MAKERS' MONTHLY MAGAZINE, a Journal which is devoted exclusively to the art of coach-making in all its various branches. This is the only medium through which such houses can advertise to good advantage.

TERMS OF ADVERTISING.

Standing advertisements \$12.00 per square for one year; (twelve lines making a square,) payable within three months from the time of first insertion.

All advertisements for a shorter time than twelve months are charged 50 cts per line for each insertion; Payable in advance.

RAILWAY SPRING WORKS,

RAILWAY, N. J.,

Manufacture every variety of Car, Carriage, Buggy, Sulky, and Seat Springs, from the best quality of Steel.

A trial of our Work is solicited.

July 1855.

E. HAYDOCK, Proprietor,
J. GATCHELL, Agent.

J. W. WHEELER.

H. G. WATERS.

FOREST CITY SPOKE & BENDING FACTORY.

Wheeler & Waters, Proprietors.

No. 76, Ontario St., Cleveland, Ohio.

MANUFACTURERS OF CUT & BENT FELLOES, SHAFTS, BOWS, TURNED SPOKES, POLES, &c.

OUR FACILITIES FOR MANUFACTURING ARE SUCH AS to enable us to furnish wood works of every description to the trade, on terms that will not fail to render entire satisfaction to all who may favor us with their patronage. None but the best quality of timber is employed in our factory, and in point of smooth and perfect work in the spoke department, we flatter ourselves to say that we can not be excelled in any country. Orders solicited.

LIST OF PRICES:

Spokes from 1 in. to 1 1/2 per hundred	\$5 00
for Wagons Omnibuses do.	5 50
Bent Buggy Felloes, per sett	1 50
Wagon " 2 in. per sett,	2 00
Bows, per sett	75
Wagon Bows, 5 to sett	1 00
Shafts, bent heel, per pair	60
straight heel, per pair	50
Sulky,	1 00
Poles	63
Nov-1855.	

DELAWARE Spoke & Bending Factory.

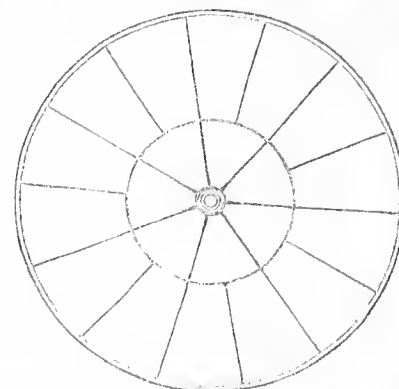
JOHN McELROY, PROPRIETOR.

HAVING LEASED MY CARRIAGE FACTORY FOR A TERM of years, I am now devoting my whole attention to the manufacturing of every description of Spokes, Hubs, Felloes, Shafts, Poles, Bows, &c., &c., which for quality of timber and workmanship, cannot be surpassed in any market, and which will be sold to the craft on as favorable terms as at any other establishment in this country. Being located on the C. C. & C. Rail Road, and S. N. & P. R. R., the facilities for shipping are as good as from any other point in the State.

LIST OF PRICES:

Spokes from 1 in. to 2 1/2, per hundred	\$5 00
Bent Felloes 1 in. to 1 1/2, do.	1 00
" " 1 1/2 & 1 3/4 " "	1 75
" " 1 3/4 & 1 1/2 " "	2 00
Bows, per sett	70
Wagon bows, 6 to the sett	1 25
Shafts, bent heel	55
straight heel	45
Buggy Poles	70
Sulky Shafts, per pair	75
Buggy Hubs, unnotched	80
2 Horse Wagon Hubs, oak	2 25
Five per cent off for Cash. Orders solicited. Address	
JOHN McELROY, Delaware, Ohio.	
Nov-1855.	

SHELLY'S PATENT WHEEL.



THE UNDERSIGNED, having bought the entire interest from the Patentee of this valuable improvement, begs leave to inform the Coach-Making public that he is now making extensive preparations for the sale of State and County Rights.

By this improvement, the hub has only half the usual number of mortises cut in it, and the long spokes may have requisite shoulders at their ends adjoining the hub, so that they may be well supported in the hub, and prevented from working or becoming loose therein. At the same time, the felloes composing the rim are well supported, as the usual number of spokes are inserted in them, the ring or band allowing the requisite support to be given the felloes by means of the short spokes, and also diminishing the number of mortises usually made in the hub. Thus a strong and durable wheel is obtained, the spokes are well supported by a ring or band, and prevented from twisting or bending when the tire is shrunk on the rim. Small hubs may be used and the cost of manufacture will not exceed that of the ordinary wheels.

Orders are solicited.

D. TILTON.

Address: ABELX. ARTHUR, Agent,
Brooklyn, N. Y.

October, 1855.

SPROUT'S COMBINED CARRIAGE SPRING, PERCH AND BRACES! THREE COMBINED.

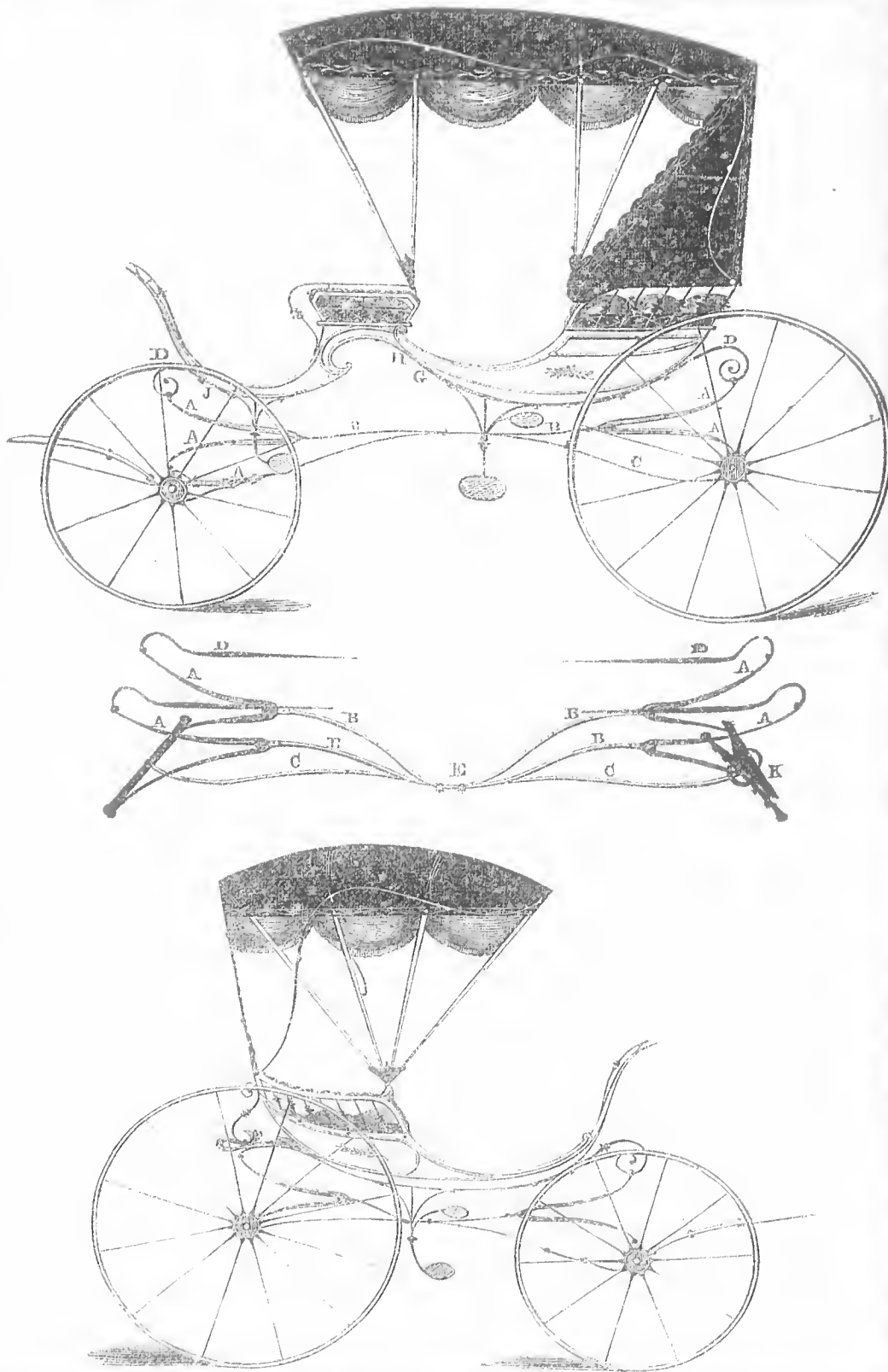
New arrangement.

The demand for our Combined Spring and Braces has so increased within the last month in the western and southern States, that we find it necessary to establish an agency in the west through which the coach-makers in that region of country can be promptly supplied.

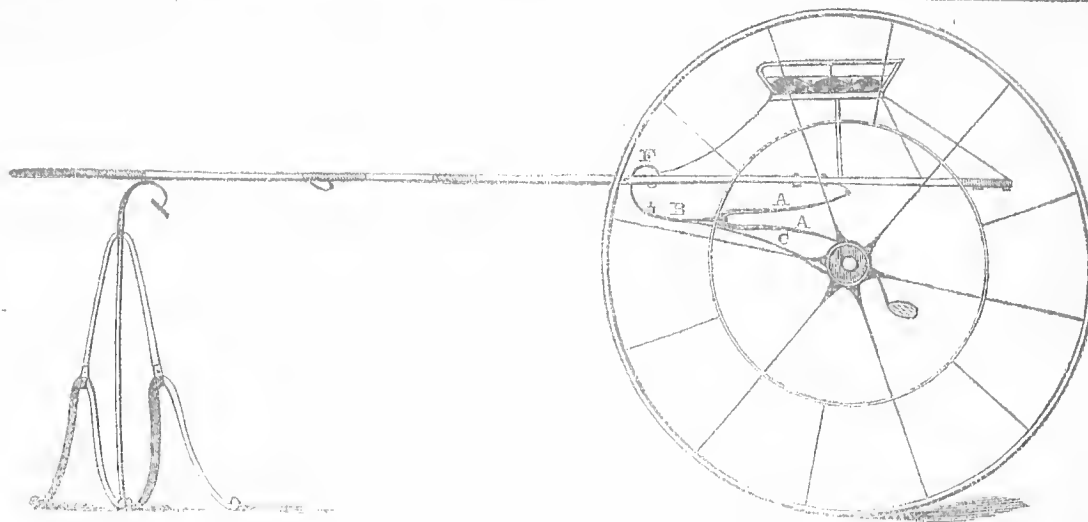
COLUMBUS, Ohio, is where we have located the agency above referred to, and where all orders from the following territories will meet with prompt attention, by being addressed to the *Office of the Coach-Makers' Magazine*, (Mr. Saladee having consented to attend to business for us until further arrangements can be made,) and to which address all orders from the States below mentioned must be directed, viz: all that portion of Pennsylvania west of the Alleghany Mountains, Virginia, Ohio, North and South Carolina, Georgia, Alabama, Tennessee, Mississippi, Louisiana, Missouri, Iowa, Milwaukee City, Wisconsin, Chicago, Illinois. The rest of the territory in the two latter States as well as Indiana and Kentucky, were sold before we commenced manufacturing; however, we are trying to make arrangements that will enable us to furnish our springs to the latter also. Mr. Abram Terrill, (Mr. Saladee's general agent,) is about to make a tour through the west to collect subscribers to the Magazine; the said gentleman is authorized to receive orders for our springs, as he sojourns through the different States.

Orders from all other territories not above mentioned, will be directed to the proprietors,
SPROUT, BURROWS & CO.,

Hughesville, Lycoming Co., Pennsylvania.
October, 1855.



THE COACH-MAKER'S MAGAZINE.



In offering this Spring to the Coach-making public we would most respectfully call the attention of the Craft to the following advantages they embrace over the ordinary Elliptic Springs :

- | | |
|--|---|
| <p>1st. Possessing double the strength and elasticity.</p> <p>2d. A Carriage can be built much lighter.</p> <p>3d. Much less concussion to the passengers.</p> <p>4th. Its liabilities to get out of repair are not near so numerous.</p> <p>5th. The wheels adjust themselves to the road without the carriage rocking.</p> <p>6th. Springs designed for a heavy load will carry a lighter one with ease.</p> | <p>7th. It serves effectually as a perfect brace to the whole vehicle.</p> <p>8th. Requires much less labor, wood and iron to construct a carriage.</p> <p>9th. The whole connection being of spring steel, a gentler motion is felt (instead of sudden jars, as with the ordinary perch and stiff braces,) and thus gives relief to the entire carriage.</p> |
|--|---|

These Springs if applied to the Carriage according to directions, (accompanying them) are not only warranted to stand, but to accomplish every point set forth in this advertisement, and any time within one year should they fail to perform, they can be returned, and the money refunded.

We are well aware that numerous patents have been granted within the last three years for improvements in Carriage Springs, and after the right was extensively sold to the Coach-makers throughout the country, many of them proved perfect failures, and thus shocked the confidence of the craft generally, in improvements for this branch of the carriage. But the proprietors of this Spring having full confidence in their improvement, have at a great expense erected large factories and employ the best facilities for their manufacture; and now offer to the public (not the right to make, &c.,) but the Spring itself and in a manner that none will be the loser to give them a trial, at the following low rates:

PRICES.

Sulky Springs	per sett, \$10 00	Side Seat Buggy Springs	per sett, \$17 00
Light Buggy Spring	" 15 00	Four Passenger " "	" 19 00
Top Buggy	" 16 00	Six " " "	" 22 00

Persons sending their orders for a peculiar shaped Carriage should take the side or rocker pattern of the different bodies to which the Springs are to be applied, and mark them off on the white side of wall paper, and also make the points at each end of the pattern where they desire to have the body loop to terminate, and forward the same, and the Springs will be made to harmonize with the shape and length of the bodies.

RECOMMENDATIONS.

REPORT OF THE N. Y. STATE AGRICULTURAL SOCIETY - SPROUT'S COMBINED CARRIAGE SPRINGS.

An entire new arrangement—getting double the resistance and elasticity, with less expense and weight of metal. The Committee recommend it as a valuable improvement a silver medal. In the Committee's awards they have given the Society's Silver Medal to the most meritorious articles.

J. B. LANGWORTHY.
JOSEPH SLOCUM.

I have used about one thousand dollars worth of Sprout's Combined Springs, and have not heard of the least dissatisfaction, but on the contrary universal praise. I have them under my own carriages for use, and know them to be the easiest and most durable springs that can be applied. Carriages can be got up with much greater despatch, and at less expense. All that part most liable to get out of repair is covered by these springs and warranted. They vibrate freely, and their motion over rough roads is peculiarly delightful. I can truly say I know of no spring equal to them now in use.

SIMON GEHRES.
Milton, June 18th, 1865.

I am the owner of a livery stable, and have used nearly all kinds of springs, and have found none equal to Mr. Sprout's for ease and durability. The tops of buggies keep their places much better, not

sagging sideways, and for rough roads nothing can equal them. I can save 50 percent, in repairs by using these springs.

J. WILHELM.
Milton, June 18th, 1865.

I had a 2 horse passenger wagon, supplied with elliptic, which was, owing to the roughness of the road continually getting out of repair. I had them exchanged for a set of Mr. Sprout's, since which time I have had no trouble from carrying double what he warranted them to do. They have been in continual hard service for over two years, and are now as good as ever. They carry one or more persons with perfect ease. I also have them under buggies in my livery stable, and find them attended with much less expense than any other Spring.

T. W. JOHNSON.
Money, Pa., June 18th, 1865.

We, the undersigned, have had the old elliptic taken out, and Mr. Sprout's put in place, and although attended with considerable cost, yet the difference in ease and durability far exceeds the trouble and expense.

JOHN F. McLAINE, Hughesville, Pa.
J. M. R. PETRIKIN, Attorney at Law, Money, Pa.
WM. M. RANKIN, M. D. " "
H. WOOD, M. D. " "

A short time since, as I was travelling to a neighboring county, just before me I saw a buggy with Sprout's Combined Springs, which seemed to move over the road with all ease, the wheels working into ruts, over roots and stones at the same time the

body keeping its horizontal position, while that of my own tossed me from side to side, rendering it extremely difficult to retain my seat. I sold my buggy the first opportunity, and purchased one with Sprout's Combined Springs, and now I have the pleasure of riding as easy as my neighbors.

HUGHESVILLE, PA., June 18, 1865.
RUSSELL BODINE.

I have a buggy and sulky with Sprout's Combined Carriage Springs, which I have used two years. In my opinion they exceed any thing of the kind ever offered to the public. Persons who cannot ease, after having used these Springs, can never be persuaded back to the old elliptics.

JOHN H. ROTHROCK, M. D.
Hughesville, Pa., June 18, 1865.

TERMS:

All orders must be accompanied with the money to secure immediate attention, and directed (either by mail or express) to SPROUT, BURROWS, & CO., Hughesville, Adams Co., Pa., or their agent, ISAAC L. HUNT, No. 215, Pearl St., N. Y. City.

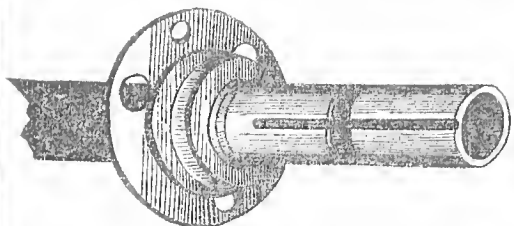
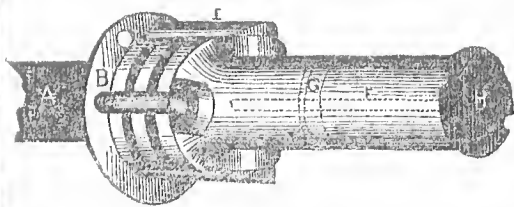
CAUTION.

Springs of an inferior quality have been manufactured and sold by persons without authority. This is to caution the purchaser as well as the vender, against such infringement, as they will be dealt with according to law.

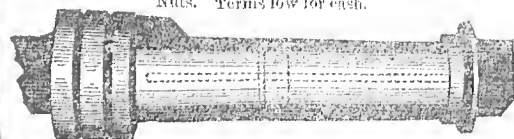
SPROUT, BURROWS & CO., Proprietors.

THE COACH-MAKERS' MAGAZINE.

W. H. Saunders,
Hastings,
(ON THE HUDSON RIVER.)
NEW YORK.



Manufactured of Superior Steel Converted Carriage Axles, viz: Mail Axles, with long T Bolts and Grooves for them, and Saunders' Patent Mail Axles, with short Bolts and safety Rings, Half Patent Axles, of improved forms and proportions, with Collings' Goggles, or with Mail Collars Saunders' very superior new Patent Taper Axles, with handsome bright Iron Square or Six-Sided Nuts. Terms low for cash.



W. H. S. having reason to believe that Carriage Axles greatly inferior to those made by him, are frequently represented as Axles of his make, begs to notify Carriage Makers that all Axles made by him are marked on the shaft "Saunders, best Iron," or "Saunders' Patent," (with the date), and that Axles represented as made by him, and not so marked, are usually poor imitations, fabricated from inferior, low-priced iron, are often of wretched workmanship, are dangerous to use, and give constant trouble.

The following testimonials, with which W. H. Saunders has been favored by the gentlemen whose names are appended thereto, certify the estimation in which Saunders' Axles are held by the most respectable Carriage Makers in New York and vicinity:

"The undersigned, Carriage Makers of New York and vicinity, having for many years used Axles of W. H. Saunders' manufacture, for the best classes of Carriages, recommend the same to the public with full confidence as the best Carriage Axles made in the United States, and superior to any imported:

Wood, Tomlinson & Co., Broadway Isaac Ford, 116 Elizabeth St.
John R. Lawrence, 351 " Chas. Beardsley, 32 Canal St.
Isaac Mice, Jr., 410 " Maj. Thompson, 27 Wooster St.
Minor & Stevens, 338 " Wm. Rafferty, 38 Canal St.
I. & C. Walters, Brooklyn, L. I. E. M. Stratton, 108 Elizabeth St.
Levi Adams, Harlem Thos. Durand, Yorkville."

W. H. Saunders was the original introducer into the United States of the favorite Mail Axle; and its first manufacturer. He is the inventor of the Oil Chamber drilled out of the body of the Mail Axle at the end of the bearing, and is also the author of every improvement on the Mail and other Axles which has successfully stood the severe proof of New York Third Avenue practice, and is now adopted into general use. His patented improvements on the Mail Axle and also on the Taper Axle, after having been extensively tested, are superseding the older forms. W. H. S. Axles have always been awarded the first premium when exhibited for competition, and his new patent Taper Axle (patented June 1854) is universally admitted to be the best axle for light carriages, ever produced for all kinds of use, as strong as the Mail, and equally excludes road dust, and has a much longer bearing, with the same length of hub, yet, the 1 inch patent Taper Box measures only 12 inches, its outside diameter at the large end; thus it is evidently better fitted than any other for the smallest and shortest Hubs. — Manufacture at Hastings, on the Hudson River, N. Y. Orders solicited. October, 1855.

W. CALBRAITH & CO.,
Silver, Brass & Electro Platers,
And Manufacturers of
COACH & SADDLERY TRIMMINGS,
Cook's Improved Carriage Knobs,
AND FINISHING SCREWS,
Improved Solid Head Silver and Japaned Binding and Band Nails,
SILVER AND LEAD MOULDING,
SPRING CURTAIN BARRELS,
Nos. 2 and 3 Japaned and Silver Cap'd Carriage Knobs, Springs, Catchers, Door Handles, Inside do., Scroll Foot, Board Handles, Calash Trimmings, Card and Name Plates, Lining Band and Saddle Nails, with annealed points—Top Prongs and Nuts, Joints, Rivets, Hub Bands, Shaft Tips, Pole Hooks and Grabs, Self-adjusting Saddle Trees, Harness, &c., &c.
FRANKLIN, NEAR CHAPEL ST., NEW HAVEN, CONN.
July 1855.

SMITH & VAN HORN,

No. 70 Beekman Street, between Pearl & Gold Streets.

NEW YORK.

IMPORTERS OF AND DEALERS IN

CARRIAGE HARDWARE, TRIMMINGS, &C. &C.

HAVE ALWAYS ON HAND

Springs—all qualities,
Axles—all kinds,
Malleable Castings,
Carriage Bolts—best and common,
Patent Leather,
Enameled do.,
Painted Cloth,
Enameled Muslin, do.
Drills, do.
Duck do.,
Broad Cloth—all colors,
Damask—Worsted and Cotton,
Orleans Cloth—Silk Stripe, do.,
" Plain,
Brocatelles and Cotelines,
Curtain Silks,
Silk and Worsted Coach Lace,
" Fringe and Tassels.

Brussels and Velvet Carpet,
Oil Cloth Carpet,
Caleche Fixtures,
Spring Barrels,
Curtain Frames,
Coach and Buggy Lamps,
Lining and Saddle Nails,
Roin Hook Levers,
Brass and Silver Top Drops,

As well as all other articles used in the manufacture of Carriages.

S. & V. H. from their long experience in the business, think that their stock, which has been selected with great care and with a view to supply consumers, will, for quality and price, favorably compare with any other in the market, and solicit a trial from Carriage Manufacturers.

N. B.—English Varnish and Japan, put up in 1 Gal. Tin Cans.—Price of Carriage Varnish, \$5.—Body, do., \$5.75. Japan, \$5. Enameled Leather Varnish \$6 per Gal. [June 1855]

Curled Hair and Moss,
Turned Spokes,
Morticed Hubs,
Bent Felloes,
" Poles,
Carriage Bows,
Bent Shafts,
Carved Carriage Parts,
" Spring Bars,

Bands,
Locks,
Knobs,
Tacks,
Screws,
Joints,
Handles,
Files,
Shaft Jacks,
Buggy Wheels,
Sand Paper,
English Coach Varnish,
American do., do.

" Brown Japan,
English Black Japan for Iron Work,
Saunders' Axles—all descriptions,
Wrought Iron Fifth Wheels,

BOUTON & REID.

67 Bowery, One Door from Canal Street.

MANUFACTURERS, IMPORTERS, & WHOLESALE DEALERS

In Everything appertaining to the

CARRIAGE & SADDLERY HARDWARE BUSINESS.

HAVING FACILITIES NOT EXCELLED BY ANY OTHER HOUSE IN THE TRADE, WE FEEL CONFIDENT THAT WE CAN offer inducements to buyers in both branches of the business, that cannot fail to secure their patronage. Believing it to be unnecessary to mention here the many different articles used by Carriage and Wagon Manufacturers, also Saddle and Harness Makers in the business, we have selected our stock with great care, and with a view of furnishing the best of Coach and Wagon materials and Harness Trimmings in all their varieties and believe that we have deservedly acquired the reputation of keeping the largest and most complete assortment of the above Goods to be found in this City. Tickets—Six months approved paper. Thirty days, 5 per cent. off. [Nov-1855]

WHEELER BROS. CARL B. FICKNER EDWARD STERLING.

Spring Perch Company,

JOHN STREET, BRIDGEPORT, CONN.

MANUFACTURERS OF

COACH & CARRIAGE TEMPERED SPRINGS,

Patent & Half Patent Axles,

Tomlinson's Patent Spring Perches.

BANDS, CALASH TRIMMINGS,

CURTAIN ROLLERS, &C.

WE respectfully solicit the patronage of those who are making the

FIRST CLASS CARRIAGES.

We believe we have deservedly acquired the reputation of manufacturing the best articles in our line in the country. Our Springs are made from the best

ENGLISH SPRING STEEL,

(which is made expressly for us from Svecde's iron) and are all thoroughly tested before they leave the factory. Our Axles are of the

BEST SALISBURY IRON,

and our Carriage Trimmings are made in the latest and most approved style.

June 1855.]

SPRING PERCH COMPANY.

E. STERLING, Sec'y.

TOMLINSON

Spring and Axle Company.

MANUFACTURERS OF

COACH AND CARRIAGE

Tempered Springs.

Mail Patent, Half Patent and Taper

CASE HARDENED AXLES.

CAMEON ST., BRIDGEPORT, Conn.

THE SUBSCRIBERS WOULD RESPECTFULLY CALL THE ATTENTION of Coach and Carriage Manufacturers to their

Springs and Axles,

As we are confident we can furnish them an article unsurpassed (as to quality of manufacture and finish) in the United States. Our Springs are manufactured from

ENGLISH STEEL,

made from the best Svecde's iron, and our Axles from Salisbury iron.

Terms as favorable as any other manufacturer.

All orders filled with promptness.

WM. G. LESIEUR, Sec'y.

Oct., 1855.

RUSSELL TOMLINSON, Esq., Pres't.

S. B. FERGUSON, Treas'r.

THE COACH-MAKERS' MAGAZINE.

PLATED COACH TRIMMINGS.

WHITE & BRADLEY,

28 Cannon Street,
BRIDGEPORT, CONN.

MANUFACTURERS OF
COACH & SADDLERY
HARD WAR

EVERY VARIETY OF PLATED Trimmings for Coach, Calash, and smaller Carriages, Fine Coach Lamps of various patterns, Bands, (new styles,) Handles, Curtain Rollers, Mouldings, Pole Grabs and Hooks, Buckles, &c. &c. Any of our Trimmings, Plated in Silver, Brass, or Princes' Metal, are warranted to give satisfaction. Bridgeport, Conn., July 1855.



BOSWORTH, WELLS & CO.,

WHOLESALE & RETAIL DEALERS IN

HARDWARE, CUTLERY & SADDLERY,
Carriage Springs & Axles,
COACH VARNISH & TRIMMINGS,
Glass, Paints, Oils and Dye Stuffs,
Copper, Sheet Iron, Tin Ware, &c.
NO. 3 & 4, FRONT STREET,
MARIETTA, OHIO.

Nov-1855.

IMPORTANT TO Carriage Builders And Owners.



Carriage Wheels Oiled and the Axles Cleaned without ever taking off the Wheels, by Garratt's Patent Oil Socket, and Axle Cleaner.

A VERY SMALL CONTRIVANCE.

To be set in the Hubs of all kinds of Wheels, on new or old Carriages, (with or without patent or close boxes,) Coaches, Omnibuses, Heavy Wagons, Artillery, Dray Carts, &c., of every description.

THIS NEW AND HIGHLY USEFUL INVENTION FOR CLEANING AND OILING WHEELS, is all the more desirable for its simplicity, cheapness and durability.

Without taking off the Wheel, the Axle is Cleaned and Thoroughly Oiled in ONE MINUTE!!

The oil is applied freely to the axle within the hub, and by a simple arrangement the socket tube is always kept open and clear, while the old worn out WHEEL GREASE IS EXTRACTED AND REMOVED by the same turn of the screw which opens the socket to receive the fresh oil—and that, too, without the necessity of lifting the axle or taking off the wheel. It is but the work of a moment now to oil the wheels of a carriage, and a mere child can do it. By using this Patent Oil Socket and Axle Cleaner, there is no more LIFTING, PATTERING, or BURY WORK! This is novel and useful, truly—for no other invention on carriage wheels in any country has ever succeeded in accomplishing this. In a few years no carriage, coach, wagon or other vehicle on wheels, will be used without this new oiling attachment, in any State or kingdom in the world where this patent is now secured, or shall be introduced. It gives entire satisfaction, and thousands express their admiration and say how often they had thought of, and desired some such quick way. Many declare that it pays for itself twice a year, by saving time, labor and horse flesh.

To keep well oiled the wheels of sulky and chairs, and to do it often in haste, is a part of the toilsome drudgery of life. Carriage Builders will find it for their interest to immediately secure the right of applying this Oil Socket to the Carriages and Team Wagons manufactured in their establishment, as it most entirely supersedes the old method of oiling and cleaning wheels.

This is a safe, lucrative and permanent business in any and every place. Every town and county in the whole country must have an Agent, or owner of exclusive Right, under these Letters Patent. For Exclusive Rights for States, Counties or Towns throughout the United States, address

DR. A. C. GARRATT, Boston, Mass.,
Or, W. ARTHUR BOVEY, Cleveland, O.

October, 1855.

Oldest & argest Establishment
of the kind in the United States.

CHARLES PEARL,
Brass & Silver

CARRIAGE BAND
MANUFACTURER,

423 & 425 MAIN STREET,
POUGHKEEPSIE, N. Y.

I AM CONSTANTLY GETTING UP NEW AND Tasty Designs for Carriage Bands, which for Beauty and Chastity cannot be rivalled. Any new patterns made by sending me a description of them. Also manufacture the celebrated Princes' Metal Bands.

Also manufacture and have constantly on hand a large and well seasoned stock of Bent Felloes, Shafts, Poles, and Turned Spokes of the different varieties of Wood, and Seat Rounds of every style.

TERMS—Six months for approved paper, or five per cent. off for Cash.

N. B. None but dealers supplied.
July 1855.

SAINT LOUIS

Spoke, Felloe & Hub

FACTORY.
Corner of Broadway & Ashley St.

WOODBURN & SCOTT,

Proprietors of Blanchard's Patent.

Manufacture with care, of the very best timber, the following Articles:

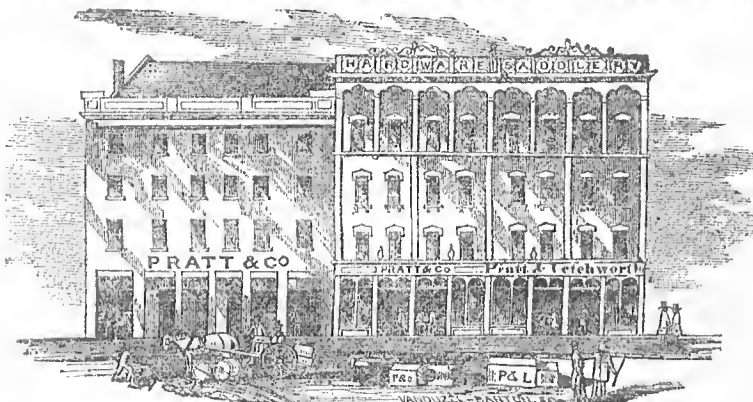
Spokes of white oak and hickory, of all sizes and patterns, from 4 cts. to 5 1/2 cts.
Wagon and Buggy Singletrees, Neck Yokes and Spring Bars, from 12 1/2 to 15 cts. each.
Pick, Sledge, and Hammer Handles, from \$1 to \$1 50 per doz.
Bent Heel Shafts at 60 cts. 3 pr.
Bent Carriage Poles, 75 cts. each.
Bent Felloes, 1 1/2 in. and under, \$1 75 2 set; for each additional 1/2 of an inch, 25 cts.
Puggy Bows, 75 cts. per set.
Wagon " 80 " "
Mounted Hubs, 5 in. \$1 25.
" 6 5/8 & 6 3/4 in. \$1 40
" 7 & 7 1/2 " 1 50
" 8 to 9 1/2 " 2 00
" 10 to 11 1/2 " 2 50
" 12 to 13 " 3 50
Unmounted Hubs, \$1 to \$2.
Effort will be made to keep a supply of the above articles always on hand.
N. B.—The highest price paid for Oak and Hickory Spokes and Plank. None but the best quality of timber will be received.
Aug. 1855.

SAMUEL F. PRATT,

PASCAL P. PRATT,

WM. P. LETCHWORTH.

PRATT & LETCHWORTH,



MANUFACTURERS, IMPORTERS & DEALERS IN EVERY DESCRIPTION OF

SADDLERY, COACH & TRUNK HARDWARE,

Have removed to the Buff-Color Brick Store, No. 34 Terrace Street,
Opposite the Western Hotel, and adjoining the Hardware Store of Messrs. Pratt & Co.

BUFFALO, N. Y.

[June 1855.]

CHAPMAN'S

Elastic Anti-Rattling

CARRIAGE SHAFT FASTENER.

IT IS ONLY ABOUT THREE MONTHS SINCE I FIRST PRESENTED this valuable invention to the public. It is unanimously recommended in the highest terms by every person who has tried it—already hundreds of certificates from Carriage Makers and gentlemen of the first respectability, who are daily using it, in the Eastern, Western and Middle States, can be shown, cordially recommending its use by every one—it being an attachment long desired. If applied to an old or new carriage, as directed in the instructions accompanying each package, I warrant it effectually to stop all rattling noise near the shaft bolts; and it will firmly secure the bolts from loss, should the nut drop off.

A trial MUST convince the most fastidious. It is all I represent it to be. My terms are CASH.

Wholesale, to Carriage Makers, \$12 per doz. sent.
Retail " " \$2 per cent.

All orders promptly filled. Address

WM. S. CHAPMAN, Patentee and Proprietor,
Oct. 1, 1855. Cincinnati, O.

JOHN TENNIS & CO.,

IMPORTERS AND WHOLESALE DEALERS IN
COACH AND SADDLERY HARDWARE.

No. 25 Water Street, Cleveland, Ohio.

HAVE ALWAYS ON HAND A FULL STOCK OF EVERY DESCRIPTION of Coach Trimmings, embracing the latest and most approved styles and patterns, which they will sell at New York and Philadelphia prices—consisting in part of—

Enamelled and Oil-Dressed Leather;
Dash, Collar and Fancy Enamelled;
Enamelled Cloths of all kinds;
Wood Work of all description;
Cloths, Damasks, Cotton-lins, Silk and Worsted Laces, Tassels, Silk Fringes, Carpet, Oil Cloths,

Buckram, Moss and Hair, full assortment Props, Turned and Plated Collars, Stump Joints, Ivory Nails, &c., &c., &c.

JOHN TENNIS,
Oct. 1855.

D. A. DANGLEH.

THE COACH-MAKERS' MAGAZINE.

Pittsburgh Advertisements.

HIRAM A. PRYOR,

WHOLESALE DEALER IN

Saddlery Hardware, Coach Trimmings, &c.

NO. 137 WOOD STREET, PITTSBURGH, PENNSYLVANIA.

THESE PRICES BEYOND ARE SUBJECT TO ANY FLUCTUATIONS THAT MAY OCCUR.

Newark Enamelled Lea. large hides per lb.	16 1/2
" " med. " "	16
" " fancy colors " "	16
" " Collar and Railing Leather " "	20
" " Dash Splits " "	16 1/2
" " Enam'd Duck, 50 in. extra, pr yd.	50
" " Drills " "	40
" " Canvas, 5-1 " "	25

Can furnish other cloths from 5 to 10 per cent. cheaper, if wanted.
Fitch's New Haven Springs, per lb. 10
Extra for French Head, if wanted, per set, 25
Rowland's Enam'd. Springs, per lb. 11
Extra, for French Head, per set, 10
Less 5 per cent. on Rowland's Springs.

Silk Lace 2 1/2 in.	25
Worsted Lace 2 1/2 in.	25
Worsted and Silk Lace, 2 1/2 in.	25
Silk " S. and P. " "	1

Less 15 per cent. on all Laces.

IVE'S CONNECTICUT AXLES, VIZ:

Roll Mill, 1 1/2 in.	1 00
Inside screw, 1 1/2 in.	4 00
Outside " " "	5 00
" " long shank " "	5 00
Iron Nut Taper Axles, 1 1/2 in. col. col.	3 00
Sil. Cap Nut " " "	3 25
Iron Nut, H. P. " " "	3 25
Sil. C. " " " "	3 25
Iron Nut Taper " " " "	3 25
Sil. C. " " " "	3 25
Iron Nut H. P. " " " "	3 25
Sil. C. " " " "	3 25

All other sizes in proportion to 1 1/2 in.

Stump Joints, 1/2 in.	1 12 1/2
" " 9-15 " "	1 25
" " 2 1/2 " "	1 37 1/2

Less 5 per cent. on the above joints.

Stump Joints, 1/2 in. extra.	1 25
" " 9-15 " "	1 37 1/2
" " 2 1/2 " "	1 50

Pittsburgh Springs, per lb. 10
Less 5 per cent. on Pittsburgh Springs and Axles.

Brass Boston Bands, light	38
" " " " heavy	44
" " " " common	50
" " " " heavy	56
" " " " common	62
" " " " heavy	68
" " " " common	74
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" " " " common	1982
" " " " heavy	1988
" " " " common	1994
" " " " heavy	2000

Removal!

R. T. LEECH, JR.,

IMPORTER AND DEALER IN

Saddlery Hardware, Carriage Harness, AND TRUNK TRIMMINGS,

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DASH, COLLAR, RAILING & BLACK EN-
amelled Leather, and every description of fan-
ciful Colored Leather and Enamelled Cloth of all kinds,
Bows, bent Felloes, Shafts, Hubs and Spokes of
Eastern manufacture, Deer Hair, Moss, Curled
Hair, Black Leather and Coach Varnish, Saddler's
Tools, &c., also, Springs and Axles at Manufactur-
er's prices.
Feb. 1855.

CARRIAGE TRIMMINGS.

P. & T. HAYDEN,

MANUFACTURERS, IMPORTERS & DEALERS IN

SADDLERY & COACH HARDWARE

AND CARRIAGE TRIMMINGS,

In all their Variety,

No. 79 Beckman St., New York.

THE subscribers having removed from their old
stand on Pearl Street, to the new and commodious
Ware House, No. 79 Beckman St., are now prepared
to offer to dealers the most complete assortment of
Goods in their line, to be found in any house in the
United States.
Their facilities for manufacturing and importing are
not excelled by any.
Terms—6 months, with satisfactory references, or
5 per cent. discount for Cash.
June 1855. P. & T. HAYDEN.

New York Advertisements.

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JOHN P. JUDE.

83 Bowery, N. Y.,

Keeps constantly on hand a large assortment of choice

SADDLERY & COACH HARDWARE.

Together with a well selected Stock of the most ap-
proved Manufacturer's

PATENT LEATHER.

Japanese Curtain Cloth, Warranted Steel Springs,
Patent, Half Patent and Plain Axles, Bolts of Superior
Quality, Hubs, Spokes, Bent Rims, Shafts, Poles and
Tap Bows, Coach Varnish and Japan, Curled Hair
Moss, &c.
[June 1855.]

S. B. ROBY.

[S. A. STEVENS.]

SIDNEY B. ROBY & Co.,

DEALERS IN

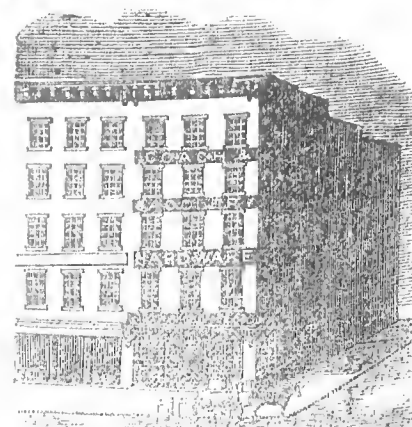
SADDLERY & COACH HARDWARE.

NO. 67 STATE STREET,

ROCHESTER, N. Y.

SADDLERY.—Japanese Ware of all kinds, Tin do., Brass Pla-
ted do., Silver Plated do., Saddles, Bridles, Col-
lars, Deer's Hair, Varnish, &c., ornaments of all kinds.
COACH HARDWARE.—Best Leather, Enl. Cloths, Colored
Broad Cloths, Hubs, Spokes, Felloes, Bows, Axles, Springs, &c., &c.
[June 1855.]

NATH'L WRIGHT, JOHN WOODWARD, JR., WM. W. HILL.
NATH'L WRIGHT & Co.,



Importers, Manufacturers & Dealers in
Coach and Saddlery Hardware,

321 BROADWAY, CORNER HAMILTON ST.,

ALBANY, N. Y.

[June 1855.]

NOBLES & HOARE,

LONDON, ENGLAND.

MANUFACTURERS OF

COACH VARNISHES.

69 UNIVERSALLY CELEBRATED FOR THEIR DURABILITY AND BRILLIANCY.

Best Wearing Body Varnish	5 75	Per Gallon Cash nett
" Hard Drying Body Varnish	5 75	" on delivery in N. York
" Elastic Carriage Varnish	5 00	" on delivery in N. York
" Black Japan Varnish	5 00	" on delivery in N. York
" Black Enamelled Varnish for inside	5 00	" on delivery in N. York
" Ring old Leather Top	5 00	" on delivery in N. York
" Japan Gold Size	5 00	" on delivery in N. York

FILLING UP.

This article has completely superseded the use of Ocher in Eng-
land, and is found quite as cheap.
In parcels of 5, 10 & 25 Gallons, 10 cts. per Gallon.
In barrels of 100, 200 & 300 Gallons, 8 cts. per Gallon.
Also a fine assortment of the very best Colors, especially for Coach
Painting, &c.

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ADOLPHUS KRIPPLMANN, 10 Chamber St., New York, for
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Nov. 1855.

SALADIN'S MAGAZINE,

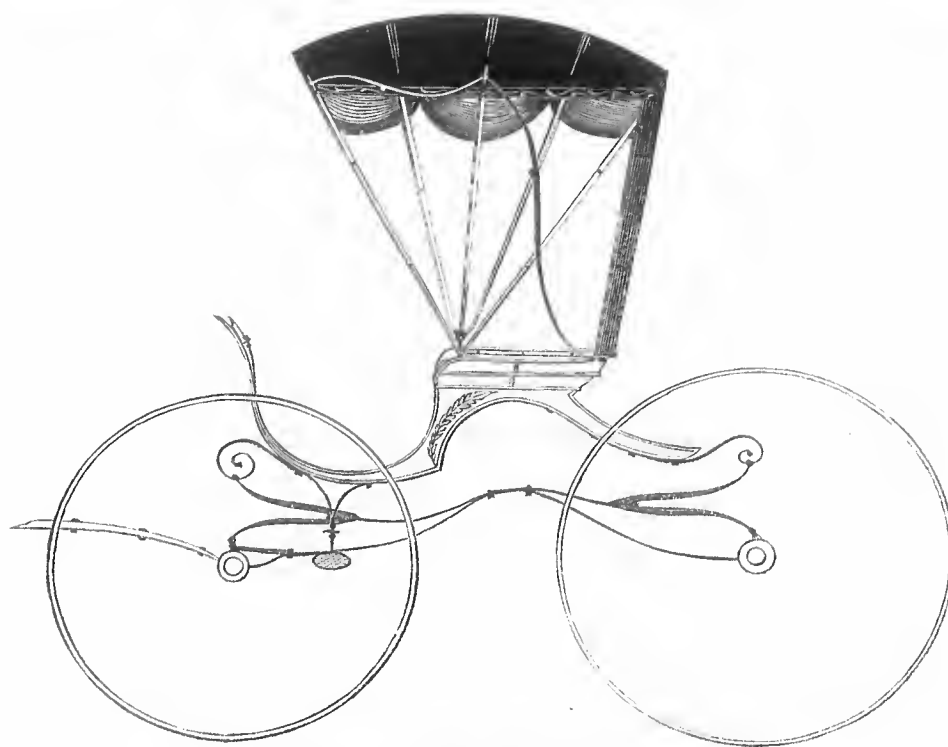


Fig. 61.—Canadian Buggy.

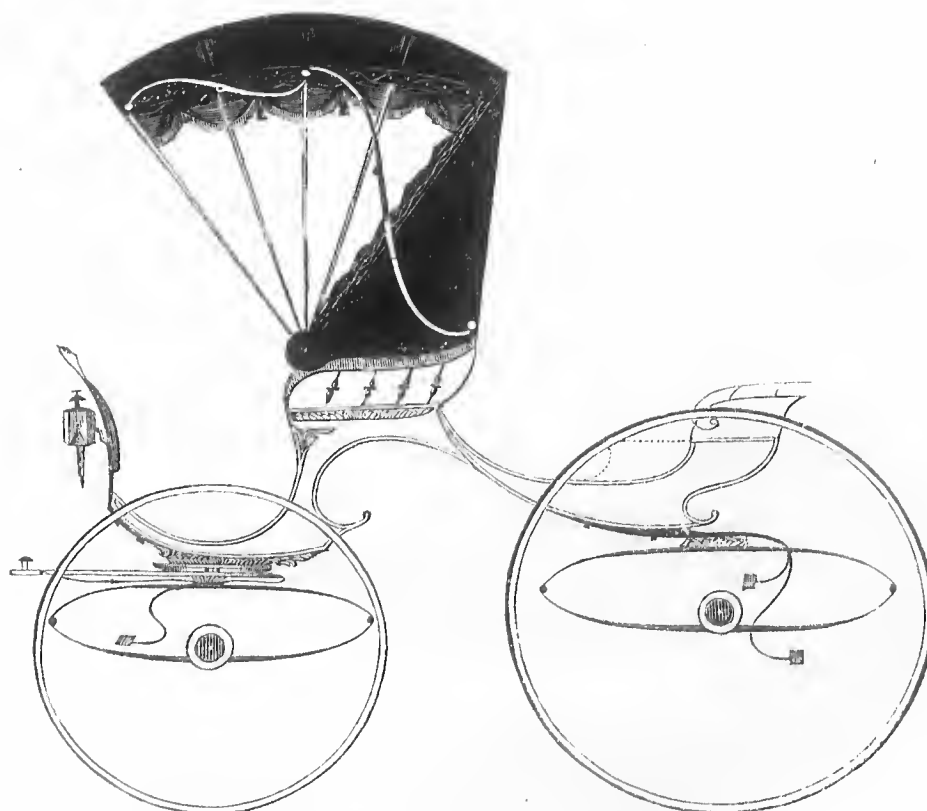


Fig. 62.—Canadian Phaeton, with Serpent seat.

SALADIE'S MAGAZINE,

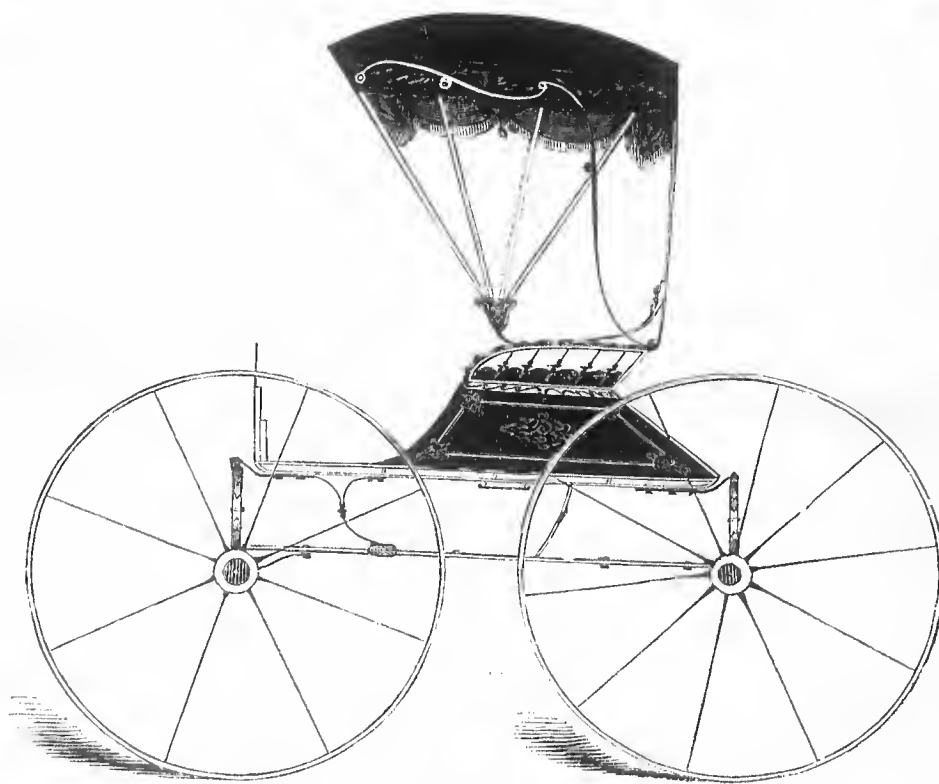


Fig. 63.—Stratton's New York Buggy.

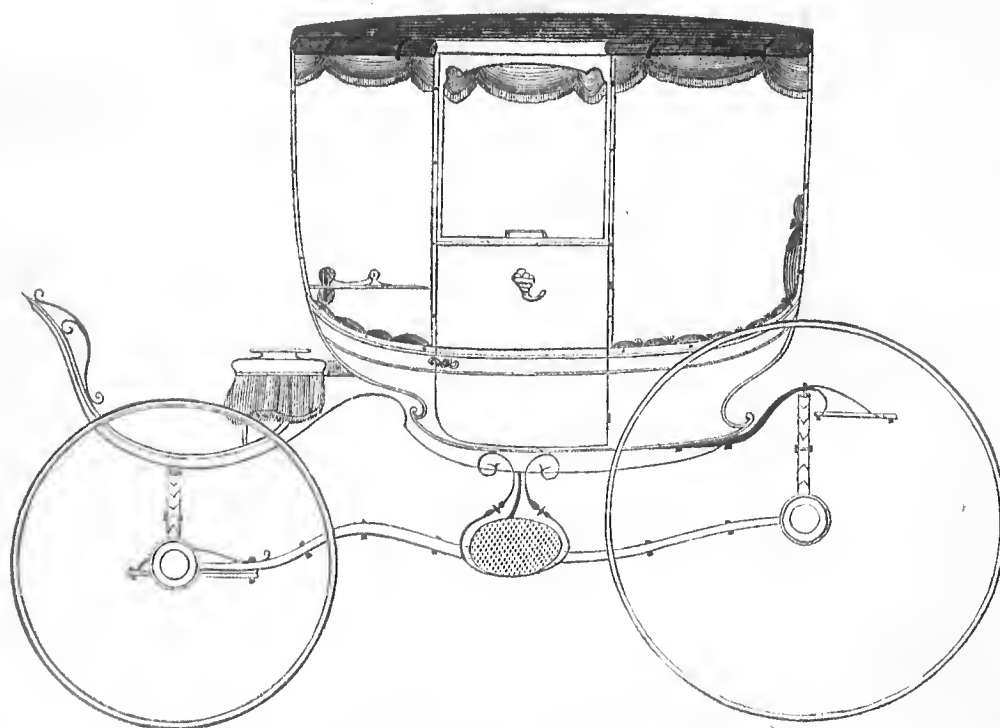
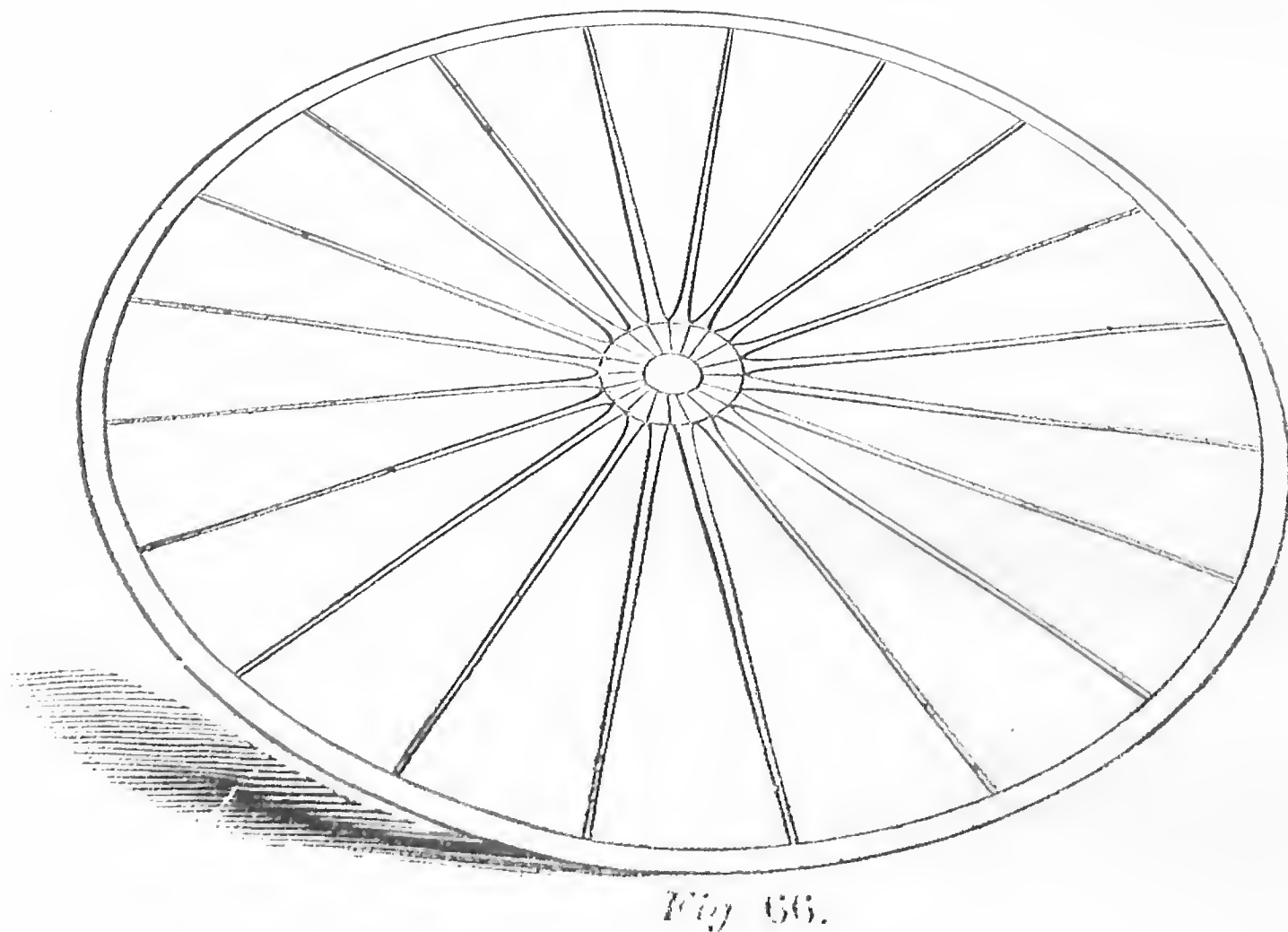
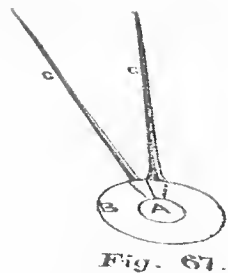
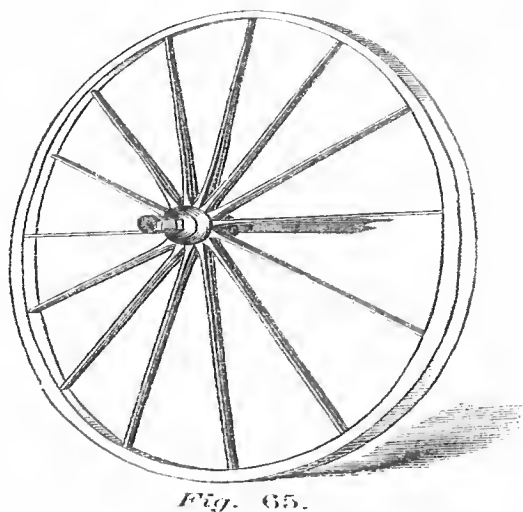
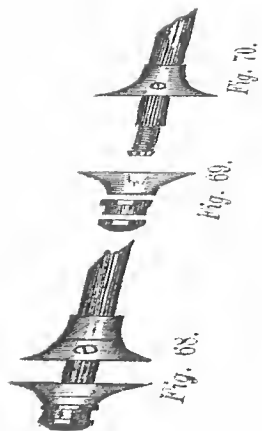


Fig. 64.—Light Rockaway, (4 or 6 passenger.)

J. L. Hayden's Improved Patent Wheel.



NEW YORK, DECEMBER, 1877.

THE COACH-MAKERS' MAGAZINE.

C. W. SALADEE,

EDITOR and PROPRIETOR.



VOLUME I.]

NEW YORK, DECEMBER, 1855.

[NUMBER 12.]

TERMS:

Single subscription one year	- -	\$3 00
Clubs of three	" - -	8 00
" " six	" - -	15 00
" " ten	" - -	20 00

Payable in advance.
All Clubs, however, must be sent to one address.
Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented stamped on the cover in gilt letters. All communications must be addressed to the Editor, at his residence, Columbus, Ohio.

Office of the Coach Makers' Magazine, New York, 106 Elizabeth St. E. M. STRATTON, Assistant Editor, and Agent for N. York.

Office of the Coach Makers' Magazine, Columbus, Buckeye Block, Broad Street.

EXPLANATION OF THE DRAFTS.

For Saladee's Magazine.

FIG. 61.—CANADIAN BUGGY.

MR. SALADEE:—It affords me great pleasure to contribute the two drawings enclosed, to a publication devoted exclusively to our craft, and one so deservedly popular as your Coach-Makers' Magazine. I repeat it gives me pleasure, because it affords me the happy privilege of contributing my little mite in such manner as to fall into the hands of my brother workmen universally. And if so be that I have introduced them to anything new or different from any style they have ever before seen, and should prove worthy of their approbation, then I have made myself useful to a limited extent, and my object fully attained.

Of all things do I most despise that sneaking and contemptible spirit which prompts its possessor to withhold the little light he may have from his fellows, or perpetually seeks to hide it under a bushel. Not long since I visited an old brother elip, (a native of Germany) with whom I worked (as jours together) in the same shop in Bridgeport, years ago. He is an accomplished workman, and a scientific draftsman. Notwithstanding now that we were old shop mates he actually refused to let me see his collection of drawings, for fear I might catch some new idea therefrom, and it is only from a sense of pity for his weakness and ignorance that I withhold his name in this communication. What if our fraternity was wholly composed of such bigots as this? where would we stand to-day as a body of mechanics? what would be the appearance of our productions in this progressive age? or in short where would be the pride of all sensible coach-makers, *your Magazine*? Let those answer who cherish the beautiful principle exhibited by my old friend, and particularly is he called upon to do so should this meet his dignified gaze.

However, it is cheering to notice that what fogysm of this character there is still lurking our midst is fast disappearing before the penetrating influence of your Magazine. I do not

make this expression to flatter, be it far from me; but actual observation has prompted it. For example, I could name some of your present contributors in the State of New York and Massachusetts with whom I am personally acquainted, who not more than two years ago would not furnish a brother craftsman with one of their drafts, even if they were doubly paid for the same, but somehow they have seen the littleness of this, and now like true men of science or art volunteer their services and contribute their drawings to your Magazine for the welfare of the craft generally. What, I ask, but the influence of your Magazine and the good examples there laid down by numerous members of the craft, has wrought this desirable change. But I am wandering, and will immediately turn to the description of my drawings.

Fig. 61 is a light fancy buggy, the design of which is original with myself, but was suggested on seeing the arch buggy of Mr. Holst, of S. C. It is however more fanciful and pleasing to the eye than the latter. The drawing I have endeavored to execute in such a manner as to explain itself in every particular.

I have just applied a set of Sprout's Combined Springs and Coupling to a light Buggy and am so well pleased with their operations, that I have ventured to illustrate them in the drawing, and to which they are admirably adapted. They are decidedly the best spring ever invented, not excepting even the faithful elliptic, and any person wishing to purchase a carriage need but to ride in a vehicle with these springs to convince him of all I assert.

Fig. 62 is a Phaeton, also original, and drawn expressly for your Magazine. This was the first drawing of the two I made, hence you will easily perceive where the design of 61 was obtained, by taking a glance at this and the buggy of Mr. Holst. This carriage has a turn over seat which is intended for servants or children. It is solid side work and finished as shown in the engraving.

C. S. B.

For Saladee's Magazine.

FIG. 63.—STRATTON'S NEW YORK BUGGY.

The buggy correctly drawn from one in our factory, and delineated in our fashion plate this month is, with some modifications, the same as has been so long and deservedly popular with the pleasure taking public of New York City. There are probably more made of this description at the present time than of the deep-sided square body, which seemed to take the lead with our *fast men* during the past season. In fact it appeared as they would never go out of favor for although they have had almost every year some rival for the public's approval, still, they yet have their numerous admirers. The beauty added in the peculiar construction of the seat and finish of the trimmings, recommend them to every person of taste and refinement who desires lightness and neatness combined.

The annexed drawing represents a half section of the double perch, now in universal use here.

E. M. S.

For Saladee's Magazine.

FIG. 64.—LIGHT ROCKAWAY WITH O G BACK, MOVEABLE SEAT; 4 OR 6 PASSENGER.—

The beautiful light rockaway represented by this figure is another of the able productions of our general agent, Mr. Abram Terrill. The front seat has a revolving back, the object of which will be readily comprehended in the drawing, also that of the extreme front seat, which is so constructed as to admit of its being attached or detached to or from the carriage

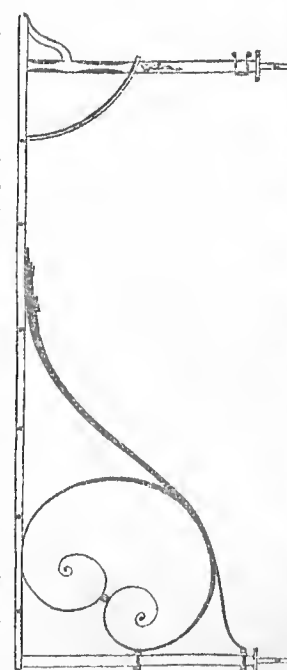
with the utmost facility. The manner of its construction is we presume universally understood, consequently a description of it would be superfluous.

The door as illustrated in this engraving has a sliding glass; but for a more plain and simple finish a curtain may very appropriately be substituted.

The body is panel work, though it may be

constructed with solid side. However, this would add materially to its weight, nor could the required swell be thus imparted to the sides which is all important to work of this style. The side with scroll in front quarter some body makers invariably make solid, to which practice we have no particular objection to offer, but feel rather inclined to recommend it in all ordinary work of this pattern, as it is a great saving of work.

The annexed figure is an illustration of the car-



riage part to the Rockaway, showing the style of the braces, and the mode of coupling the front axle to the spring block and perch, the coupling belt being placed in front of the axle as shown in the engraving.

J. B. HAYDEN'S IMPROVED PATENT WHEEL.

Fig. 65 represents the complete wheel in which the number of spokes may vary from twelve to twenty, forming a compact, self-supporting arch, as seen in Fig. 66.

Fig. 67, B, represents an iron disk or collar, with two spokes, C, C, fitted by a slot, or saw cut in the center.

A represents an opening through which the box passes, uniting the two flanges, as seen in Fig. 68.

Fig. 69 gives a view of the front flange, the nut which confines it, and the cap, which screws upon the same thread, cut upon the external surface of the box, as seen in Fig. 70, forming a joint nut, and thus firmly uniting the several parts of the hub and wheel. This wheel possesses several decided advantages over the common wheel, and is in no respect inferior. It has received the unqualified approval of thousands of practical mechanics, as the ultimatum of every thing desirable in a wheel. It admits the use of an indefinite number of spokes, thus giving an equal distribution of strength to the rim, and obviating the tendency of the tire to work loose, without cutting away the hub, and thus weakening the center, as would be the case with the common wheel, when using fourteen or sixteen spokes. Another important advantage, is the facility it gives for tightening the spokes, in case of the shrinking of timber, which in the ordinary hub, occasions so frequent annoyance and loss. It lessens the weight of the hub at least twelve pounds per set in the lightest style of buggy wheels, and will diminish weight in an equal ratio in heavier work. It requires no setting of boxes, as the bearing of the flanges holds the box inevitably true with the rim, and prevents the possibility of any wobble which is an almost universal difficulty with the ordinary wheel. It combines a greater amount of strength, as the spoke is not weakened by tenoning, but is fitted in wedge form into a compact self-supporting arch, giving an equal bearing upon each other; and with the iron disk in the center, a much greater amount of bearing surface is obtained for the spoke than can possibly exist in the mortised hub.

This truly valuable arrangement was invented and patented by J. B. Hayden, Esq., of Eastern New York, in Feb. 1854, and has since been patented in Canada, where he now resides. Extensive preparations are now entered into for the manufacture of this wheel at Cleveland, Ohio, also at Brantford, Canada West. The firm consists of J. B. Hayden & P. C. Van Brocklin, of Canada, and A. Hemenway, P. C. Van Brocklin, J. B. Hayden, and G. B. Hayden in the United States. Title of the firm at Cleveland is J. B. Hayden & Co.

BACK NUMBERS.

On the 10th day of Nov. we mailed to all of our new subscribers the back numbers. There may be some we have overlooked, if so, and they will please inform us of the No.'s missing to make their volume complete, it will afford us great pleasure to forward them by return mail.

The Coach-Makers' Magazine.

DECEMBER, - - - - - 1855.

THE NEXT VOLUME.

This being the closing number of the first volume of the COACH-MAKERS' MAGAZINE, we feel somewhat inclined to take the stump, call around us our multitude of friends and readers, and deliver to them a long speech; speak of the past, the present, and the future of the Magazine. But when we consider the many duties that are involved upon us on this occasion, and also that it is a season when every coach-maker is extremely busy with work for the spring market, and therefore would have no time or inclination to listen to a long speech, we will cut it off short to make room for other matter perhaps more interesting.

And now, candid reader, permit us to remark, that the conductor of any periodical, (and especially that of a mechanical nature,) whether it be daily, weekly, monthly, or quarterly, assumes great responsibilities to the public. He wields an engine of power for either good or evil to his fellow men, and the greater the success which attends his periodical, the more extensive is its influence and the graver its responsibilities. Therefore we do not feel like entering upon the labor of the next volume lightly or with indifference, neither from the mere motives of pecuniary endowment, but from a sincere desire to contribute our mite towards the instruction, elevation, and general welfare of our fraternity. Though we are quite young, yet we have lived long enough to comprehend the solemn fact, that the journey of life has its end, to be reached in a few stages at the longest, and that the most interesting and pertinent question which duty calls upon every man to ask himself is, "In what manner can I do the most good?" Thus impressed, it will be our constant aim to give to the *Coach-Makers' Magazine* a useful, practical, instructive character, rather than light, imaginative, and sentimental. But though the face of our Magazine may be grave to a certain extent, we do not mean it shall be austere, but hope and trust it may ever wear a smile that will make it attractive to many and repulsive to none.

That we shall be well sustained by the coach making public in conducting the next volume, we have the most gratifying assurance in the remarkable success which has attended our efforts in the one just closed. Therefore no pains or expense shall be spared to make the Magazine worthy of universal admiration.

With the aid of our old patrons we feel confident that the next volume of the Magazine can be placed into the hands of over twenty thousand readers in the United States alone, and in Canada it is sure to visit every shop.

Our Magazine is unlike any other ever before published, not only in character but in form; it

has marked out a course of its own, and has proved popular, notwithstanding the appearance of the first number a year ago brought out the general exclamation (from a certain class) that such a Magazine could never be supported unless we made it a regular mechanics' Magazine, devoted to all branches. Yet we have made decided improvements and enlargements in every number up to this time, and its success now stands unquestionable.

We fancy we hear some Oliver Twistish subscriber, who would like a "little more," ask if we expect to continue to make improvements from month to month as we have done the year past; to which we respectfully answer in the language of Col. Miller, "We'll try, sir."

MEN AND THINGS MECHANICAL.

A man's judgment is too often the bond-slave of his tastes. The slavery is of very ancient origin, and successive ages have only added rivets to the chain. From the earliest known dates in Grecian and Roman history, down to our own day, we shall find that the advance of nations in what are called the *fine arts*, as distinguished from the *useful arts*, has constantly been proportionate to the greater polish of refinement to which the same nations have attained in the same time. Now, since this term, *refinement*, has become very generally used of late, and, in proportion to the generality of its use, has become extremely unsettled in its meaning, it may not be altogether useless to expose and correct at least one of its misapplications.

We shall be no less mistaken, because the mistake is hard to avoid, if we suppose that the *fine arts*, so called, or their collateral or kindred branches of study, are the only appropriate or congenial objects on which a refined intelligence can exercise its powers. It is, and always has been, the error of our judgments to turn away from certain studies, as impracticable for the grasp or texture of our minds, because they are, or seem to be, foreign to our tastes. The difficulty lies not in the divergence of the general direction of our minds from the general direction of a peculiar study, but for the want of a steady and controlling power to keep our minds in their normal and proper direction, and withstand the warping and distorting effects of arbitrary taste and fancy. That a man often misdirects his faculties from a mistaken notion of what his faculties really are, is no truer, nor will it appear, on reflection, any plainer than that he often forms a mistaken notion of what his faculties really are, from his other mistaken notion that his faculties are necessarily most competent to perform what his tastes are most ready to suggest.

But we do not admit that a man must abandon the pleasures of refinement if he repudiate the tyranny of taste—we mean, of course, in the intellectual kingdom. What is this taste? It is a very fickle and unsubstantial thing, built upon the ever-shifting sand of our daily associations. But that innate principle, which seeks for, and

enjoys, the society of all that is refined in nature, is not so fickle and unsubstantial. Its growth is universal, and its roots are deep. It is no fastidious plant, folding its proud leaves in certain lights, or drooping its withered petals in certain atmospheres. Its sustenance is everywhere, as its craving is unceasing. No man lives that has no principle of refinement in his mind; and nowhere can man go that he may safely say, "there is no food for me."

We come now to the matter immediately before us. Entertaining such ideas as we have expressed here, we do condemn and denounce, and earnestly deprecate the shamefully prevalent neglect of things *mechanical*, by those who pay a willing homage to things picturesque, poetical, or philosophical. We say to these men, "You see only the bones and the flesh of mechanic art—you are ignorant of its living action, and worse than ignorant of its spiritual essence, and you call that a senseless mass which is actually an animated being." Come with us, poet, painter, philosopher—presumptuous trio who acknowledge no world beyond your horizon! Come, and let us stand together on the deck of the ocean steamer. There is not a ripple on the water around you, but a strong breeze is blowing on your cheek, the breeze of swift and steady motion; and while you fly along as on eagle's wings, you may sit down at yonder table and record your sensations as quietly as you would in your own study! Come now with me and look down into that little room, and see how the heart of the great ship beats. See how the dusky demons ply with his fiery food the monster engine that lazily rolls himself about, and with the swinging of his arms heaves his huge home along as a child trundles his hoop. Painter, can you paint motion? Can you paint the breath and the speech of animated wood and iron? If you cannot, throw your pallet and your brushes overboard. Philosopher, can you bind this new creation with those metaphysical cobwebs wherein you now sit secure, and fancying them the limits of man's mind? If you cannot, then say with Prospero:

"I'll break my staff,
Bury it with fathoms in the earth,
And deeper than did ever plummet sound,
I'll drown my book!"

Let us send these benighted men home "with all their gettings to get understanding;" and let us treasure up ourselves this all-important lesson. There is in this world a beauty of meaning as well as a beauty of appearance—a beauty for the mind as well as a beauty for the eye. The Creator does not always give these good gifts in conjunction. There is one glory of the star, and another glory of the flower, and another glory of the diamond, and another glory of the *machine*; and because the star, and the flower, and the diamond, are beautiful to the eye, we do not deny to them the inner and spiritual beauty which they offer to the mind. Why, then, should we deny the inner and spiritual beauty of an artificial machine, because the organic body

wherewith it is clothed is rough and unsightly, because it emits no tender perfume, and reflects no brilliant ray? It is as if we should walk through a great gallery of paintings, and single out as the finest pictures those which had the grandest frames. Here is a picture on coarse canvas with a common frame, discolored with time and dust; let us wash away the stains, and put a gilt frame upon it, and it will stand the loveliest picture in the gallery. So is it with mechanic art, possessed with rich, intrinsic beauty, emanating from the hand of a *master*, it disdains the adulteries of outward show. Be it ours, in our day and generation, to unmask this picture, and show to the refined intellects of men what a hidden treasure they have had so long at their very doors.

This mistake, so discreditable to educated and thinking persons, but so fatally prevalent, as to the comparative congeniality of mechanical studies with the higher states of the mind, has produced a very natural but a very lamentable result in the popular estimate of the *intellectual* value of such studies, and of those engaged in prosecuting them. Because they have dealt with tangible wood and iron (albeit to these rude materials they have applied the most refined and recondite philosophy) they are regarded as plebeian in their nature and habits, mere hewers of wood and drawers of water in the intellectual Israel; and yet the hard-handed mechanic begins just where the cleanly and perfumed abstractionist stops.

We Americans may learn a lesson in this respect from our transatlantic cousins. It is much to be wished that while we are struggling to ape the aristocracy of England in her social and political systems, we would as humbly seek to imitate that pure democracy of intelligence which is to her at this day her distinguishing characteristic and her crowning glory. Not only the theoretical mechanic, but the practical engineer and mechanic, according to the perfection of their skill, can claim and receive the highest honors in her republic of mind. To-day Hyde Park in London bears witness to the truth of what we say. The Industrial Exhibition, although in the management of its details obnoxious to many objections, originated in a liberal, sensible, manly, and truly democratic valuation of the mechanical skill of England on the part of the Government of England. To-day the tables of the English nobility are graced with the presence of such men as English princes delight to honor—men who come up, some from the quiet of the study, some from the smoke and clatter of the workshop—many whose talents have won for them a *title*, the dearest boon their country has to offer, but never better bestowed than upon these children of the marriage of intelligence with manual labor.

In our own country, the Watts and Arkwrights and Whitneys of our day, by dint of their individual power, have opened for themselves the

door of wealth and reputation, and none have had the audacity to bid them stand back. But we claim the privileges and immunities of high social consideration for all inventors and all mechanicians, on the ground of *the nature of what they do*. That our mistake is now beginning to be realized, and that a counter-current of popular opinion is just setting in, is evident from the higher consideration paid to the votaries of the mechanic arts during the last few years in conventional and book-making circles. But we have only half done their work. In order to restore them to a position in the estimation of society corresponding to the eminence nature has assigned them, it is necessary that their advocates should establish their title not only in equity, but in law. We will not see them sink into public favor, tolerated on the score of "usefulness," and humbly covering their unworthy faces with their hard and discolored hands. We would fain have them enter with the garb and mien of princes, coming to occupy as of Divine Right that fair domain which human folly has so long kept closed against them. We call, then, upon all sound thinkers to come into court and sit upon this great question of right. It may take years, tens and twenties of years to decide it, but once decided, the retribution shall be as glorious as the wrong has been universal.

A PICTURE OF THE OLD MODE OF TRAVELING.

Within a very few years a complete revolution has taken place in the system of locomotion. The young man about town, sporting his first moustache, can still remember, almost vividly, when the first New England rail-car was launched upon its adventurous career. Nay, the machinery of railroads is still a novelty. Though the long trains daily meet our eyes, though we may daily travel in them, though at night their rumble shakes our pillow, and their thunder fills our sleep, still they seem, in a measure, dreamlike and unreal. Their extraordinary power idealizes such unpoetic elements as ribs of iron, plates of steel, ponderous wheels, and masses of wood. What wonder in all the "Arabian Nights" is comparable to this daily marvel? The Arabian enchanter transported his heroes from place to place on a bronze horse, or a flying carpet or in a house; but on the railroad we behold hourly whole blocks of palaces flitting from town to town and city to city with the speed of light. But one should never speak ill of the bridge that has carried him safely over, and our enthusiasm for the new system of locomotion should not cause us to forget the old. A thousand pleasant and interesting associations cluster around the old stage-coach system—the reliable dependence of the public for so many years.

As we look back to those days—not, indeed, very far remote, when our streets were filled with the thunder of arriving and depart-

ing coaches, a tender regret takes possession of our soul. For a moment the railroad is out of favor with us. We are willing—for a moment only—to forget all the ills that are chargeable to its account. We conjure up dreadful accidents—accidents of enormous magnitude, involving the carnage of a battle; we dwell upon fluctuations of fares and unreasonable suspensions of accommodations; we review the record of defaulting treasurers, and bitterly think of the money we sank in projects of branch railroads that lived upon assessment and died for want of funds. For the time being we become, not of the present, progressive, but of the past, foggy. Old scenes, old friends, come thronging back upon the memory. We recall the excursions, pleasant, fairy like, because performed in that golden season of life when fancy paints a rainbow in every cloud, and even tears have their prismatic colors. We recall bright mornings in June, with the dew glittering upon the elms by the wayside, the sunlight bathing white villages, and brightening the floating clouds, and dimpling the streams with radiant sparkles. We behold ourself seated beside the coachman—perhaps, O, joy of joys! entrusted with the “lines,” lines drawn, not over the backs of “three blind ones and a bolter,” but four shining bay nags, half-blood, whirling along the freshly-washed carriage, with its nine inside, and a huge pile of baggage on the rack behind, as if it were a feather. Fleetly and gayly the gallant loaders skim the road like deer, tossing their heads, their little sensitive ears in motion, sometimes fondly nestling together, sometimes parting in the freedom of their stride, the heavily wheelers bravely following, up and down hill, at the rate of ten miles an hour. If we can take our boyish eyes off the horses,—those magnets of attraction, we have ample time to scan the scenery; for the trees do not whiz by, like a troop of wild witches bound for their sabbath on the Hartz, as they dash by the windows of the cars; but the landscape moves slowly, gracefully changing from one kaleidoscopic figure to another. We recall, too, pleasant drives in the sharp autumn weather, with nerves braaced up like chords of a drum; pleasant mornings, yellow noons, and cool evenings, coming down on the landscape, and darkening all but the broad track over which our horses patter rapidly, as they approach the welcome village inn, the termination of the stage and the day’s journey. What a bustle the arrival of the coach caused! The day’s work over, all the male villagers were congregated in the streets. The village blacksmith, leaving the horse he was shoeing, would come to the door of his shop to catch a glimpse of the coach, and exchange a friendly nod with the driver. The village belle, decked in her best, sat at her window “a love-lighted watch-fire;” and how her little heart fluttered in her bosom, when, from the buff gauntlet of the driver, a snow-white letter, a missive from the distant lover, winged its flight to the very window sill of the expectant

maiden. But the largest representation of village curiosity, wisdom, wit and wealth was to be found at that favored hostelry where the stage stopped. The figures of the village idlers and magnates were defined against the glowing background of the bar room windows, ruddy with the light of generous oak and nutwood fires within; for, in those days, wood was plenty, before the confounded railroads devoured our forests, doubled the price of fuel, and reduced us to the ghastly substitute of anthracite. What a bustle as the coach drew up, and the portly coachman, tossing his reins to a hostler, descended with dignity from his box, like a king from his throne! The first greeting was for the driver. He felt his importance. It could not be otherwise; it was not in human nature to be proof against the flatteries of which he was the object. When the Duke of Saxe Weimar was traveling in this country, and waiting for the coach in the sitting room of an inn, an individual opened the door, and presented himself with the following salutation: “Are you the man that’s going in the coach? ’Cause I’m the gentleman that drives you! The duke was too sensible a man to be offended. The gentleman who held the reins and guided the conveyance over the corduroy roads of Georgia was, at that moment, of far greater importance than the individual committed to his care, and who knew no reins but the reins of state—far easier articles to handle, according to Chancellor Oxenstein. The ladies handed from the coach, the gentlemen extorting themselves, the luggage unstrapped and carried into the house, the male travelers congregated round the bar-room fire, the habitual frequenters of the place, the village politicians, and the village *bon vivant’s* courteously making way for them, and removing from the focus of generous heat. Then how many questions would be asked and answered! for the stage coach was the messenger of news. In those days people were not crammed with news, as they are now, when every important village has its journal or journals. Perhaps since the last stage-coach, a packet had arrived from Europe, bringing forty days later intelligence. There was no such thing then as regular weekly arrivals, with scraps of intelligence, trivial items about a queen’s sneezing, or a princess’s birth. A European arrival could not fail then to bring a good solid budget of news; ample food for discussion for a month. Slow and sure was the motto of that day. We never heard, in those days, of fast young men; and if there were few slow coaches on the road, there were plenty of them off the road. How easy it was to make a reputation! A few verses, written by an aspiring country clerk, who “penned a stanza when he should engross,” copied in a clerical hand, sent to a Boston newspaper, and there inserted, coming back with the author’s initials, in the “poet’s corner,” to the chimney corner of the bar-room of the inn, at once made the fortunate writer a village Milton. From that time forward he was the oracle of

tea-tables, the idol of blue stockings. Every bar-room had its brace of political oracles then, the champions of their respective parties; for then the science of multiplying parties was unknown. There was the sturdy old federalist and the sturdy old democrat, hammering away at each other with incontrovertible arguments, and keeping up a never ending warfare. Then there was the schoolmaster, always appealed to to settle abstruse arithmetical questions, and, of course, the squire. Squires were not created in batches as they are at present, and no one but him who bore the legal title was ever addressed as such by letter or by word of mouth. The squire, of course, was always the high court of appeal in cases involving the quirks and quiddities of law, and if he was well read up in the “Axe relating to a Gustus Pease,” of course he gave his decision with oracular emphasis. To complete the picture, throw in a dozen brawny teamsters, huge, stalwart fellows, who drove six in hand, and resided, the greater part of their time, on huge, covered baggage wagons, beneath which an immense mastiff kept perpetual watch. The favorite paper in the country, in those days, was the “American Traveller,” a weekly sheet, edited by Royal Porter, and containing, in addition to news, poetry, romantic love tales, and letters of traveling correspondents. But we are keeping our stage-coach company from supper. The bell rings and a regular stampede takes place to the banquet-hall, as towards the cabin of a steamboat under the same circumstances of want and supply. With what a relish the stage-coach passengers sat down to the hot supper in the dining-hall! It was a plain apartment, with pine chairs, a pine table, and room paper curtains to the windows. There were no splendid hangings, no French mirrors, no service of plate, no damask table-cloths, no Turkey carpets, no rosewood chairs, which make up the charges in our modern entertainments. As Hastings say: “We passengers are to be taxed to pay all these fineries. I have seen a good sideboard or a marble chimney piece, though not actually put in the bill, yet inflame the bill confoundedly.” But solid creature comforts were not wanting. The table quite groaned with hearty luxuries, eaten with appetites unknown in these days of French cookery and dyspepsia. And the cherry-cheeked Phillisies, real rustie beauties, added a charm to the hospitable entertainment. There was a poetry and picturesqueness about those old days of stage-coach traveling lacking to our present mode of progression, but alas!—

“The good times when our fathers rode
In safety by the stage,
Have passed before the onward march
Of this progressive age:
And now no goodly coach and four
Draws up beside the stage house door.

How rank the laugh, the jest, and joke,
As all together rode,
Coached up in friendly jollity
Like boys of one ally;
The weary miles seemed shorter then
As thus rode we o’er hill and glen.

Full half the pleasure of the way
Was appetite and fare—
This gathered from "mine host's" full board,
That from the mountain air.
O! then we went life's flowery ways,
They ended with our staging days.

O! that was music when at morn
As winding round by yon old mill,
The driver blew his bright tin horn,
And echo answered from the hill.
Now, echoing horn, nor branching team
Is heard amid this age of steam.

But drawn beneath some shattered shed
The old stage-coach neglected stands;
Its curtains flapping in the wind—
The ghost of ruins' waiting hands;
While on the wheels the gathering rust
Proclaims the mortal, "dust to dust."

White in the fields their scattering bones,
Or on the common turned to dirt;
Their "trips" all o'er—their "routes" all run
The wheelers and the leaders lie;
The driver's pride and labor gone,
And he "like one who stands alone."

TO WHOM IT MAY CONCERN.

With this No. of the Magazine we send a blank sheet and envelope with our address printed thereon, by which we hope to obviate all mistakes. All money enclosed in these envelopes and carefully sealed, will be received through the mails at *our own risk*.

In the last No. we requested of our friends who had concluded to go with us another year, to be prepared to forward their subscription upon the receipt of this, and those making clubs to hold the names of the same in readiness to send in as soon as they received the enclosed blanks and envelopes, so that all might begin with the commencement of the new volume. We trust this request was heeded, and that we shall hear from you *one and all* in due season for the January No., which will be ready for the mails Dec. 15th.

ADDITIONAL PREMIUMS.—Each person sending us a club of twenty, shall receive, in addition to a volume of the Magazine in gilt binding, one volume of Coach-Makers' Guide for 1853, and one do for 1854, or in place of this, we will publish fifty large show charts, with the name of the manufacturer, and such advertisement as he may desire printed in the centre, in two colors, illustrating from twenty to twenty-five fashionable carriages. These will be very valuable as an advertising medium to every carriage proprietor, but of no use to the journeyman. Or, in lieu of this, should a club of twenty be forwarded by the proprietor, and he would prefer two stereotype plates from any of the carriages illustrated in this volume of the Magazine, from which he can have his own circulars printed, we will forward them.

All bank bills current at home or from where they are sent, will be received at par for the Magazine.

OUR FASHION PLATES.

Those Canadian carriages illustrated in this No. are drawings, we fancy, that will be favorably received by all of our city manufacturers, and will excite the admiration of every individual who may chance to see them. Their designer is evidently a practical and experienced coach-maker, and one, (judging from the tone of his very friendly communication) who does honor to his profession, and good to his fellow craftsmen.

We much admire the principles advocated by this gentleman, and think them worthy of imitation by all our craft who have not already adopted them. We hope to hear from this brother frequently.

Our old friend Mr. Stratton, true to his calling, has furnished our readers in the drawing department of this No., with a very fine style of New York Buggy. The general design of which, as he remarks, is nothing really new, but it is the most fashionable, light, convenient, and desirable buggy made in the city of New York. Mr. S. is manufacturing quite a number of these buggies, together with various other patterns, which for neatness, quality of materials, and style of finish are not surpassed in the great metropolis. Those of our friends who visit the city for the purpose of buying a carriage will certainly be none the loser by giving Bro. Stratton a call and inspecting his productions.

ROYER, SIMONTON & CO., OF CINCINNATI, OHIO.—Having been confined within the walls of our sanctum for many days in succession, where we could see nothing but books, papers, Magazines and the like, we began to feel as though a little stroll out of town would prove a source of great pleasure, we accordingly took a seat in the cars going west, and in a short time found ourself safely landed amid the noise and bustle of the Queen City.

While here we took occasion to call upon our old friends Royer, Simonton & Co., and found them driving into business with greater earnestness, if possible, than ever, and the way the spokes, hubs, felloes, shafts, poles and wheels are brought into existence by the aid of the iron arms and fingers of machinery they have constantly at work, is a curiosity to every visitor.

It will be remembered by many of our readers that these gentlemen added a wheel shop to their factory about a year ago, and it affords us great pleasure to state that we have received letters from some of the most influential coach-makers in the west, who speak of their wheels in the highest terms of praise. The craft need fear no deception in the wheels they order from this factory.

SOMETHING FOR THE WHEELER.

We have just received from Mr. S. E. Todd, of N. Y., a valuable series of articles on the construction of wheels, which we think will be read with peculiar interest by every member of our fraternity, and especially by the wheeler.

It is generally supposed by this class of workmen, that little can be said or written concerning the wheel to any profit, for the wheel, say they, is the most simple branch throughout the entire construction of a carriage, and consequently every wheeler is perfectly familiar with all its mechanical operations, and the proper mode of its construction. This, however, is a mistaken idea, for in no part of the carriage can we find a point upon which to make more practi-

cal observations than in the wheel, and it is a fact well worthy of reflection, that some of our best wheelers are wholly destitute of a correct knowledge as to what constitutes a perfect wheel. All such will be particularly interested in the perusal of Mr. Todd's articles, which will appear in the Jan. No. of the Magazine.

The following letter was addressed to Messrs. Sprout, Burrows & Co., by the Rev. Mr. Malcom, President of the Lewisburg University. It shows in what manner their springs are received by those who try them:

UNIVERSITY AT LEWISBURG,
October 18, 1855.

GENTLEMEN,—In reply to your enquiry how I like my new rockaway with your patent springs, I am free to say, *very much*. After a trial of several months, I am pleased to think I did not purchase the old sort. I can ride ten miles now with less fatigue than I could three in my old buggy with elliptical springs. Those who ride with me are charmed with the ease of the motion. Yours, respectfully,

HOWARD MALCOM.

Messrs. Sprout, Burrows, & Co.

CONTRIBUTORS TO THIS NUMBER.

E. M. STRATTON, of N. Y.
F. J. FLOWERS, of N. Y.
ABRAHAM TERRILL, of N. J.
C. S. BARTON, of C. W.

ANSWER TO CORRESPONDENTS.

R. M., of N. Y.—Your drawing of coach is received. The drawing is well executed, but the design is not sufficiently modern to justify its insertion in the Magazine.

D. & Co., of Mo.—The springs manufactured by the Spring Perch Company, Bridgeport, Conn., are universally admitted to be of the first quality. We have never seen any of these axles, but feel no delicacy in highly recommending them.

C. L. P., of Mass.—We have seen many attempts to obviate the spring of the axle by arching it, but all to little effect. Your plan is about the same as Utly & Wolf's, of N. C., (mentioned in the Magazine some time since.) There is nothing desirable about it, consequently not patentable.

B. B. R., of N. Y.—Your article on Coach Varnish contains nothing of importance, and being more lengthy than ordinary communications should be, we must pass it under the table.

P. N., of Vt.—Please send us drawing for your improved front to bodies, and we will be able to see and understand you much better. Your description does not leave a very favorable impression, though we may think different when we come to see the drawing or model.

G. W. S. & Co., of Ill.—Your favor is at hand. We like the plan of your half spring very much, and think it will accomplish as much or even more than the Burgardroyd patent. We see nothing in the way to prevent you from obtaining a patent; you have our thanks for the drawings sent. The Rockaway is a beautiful design.

A. R., of Ohio.—Any of the Coach Hardware and Trimming houses in Philadelphia and New York (advertised in the Magazine) can furnish you with the articles inquired after. Their prices we cannot furnish you.

R. S. T., of Ill.—That Cutter of yours is a very good attempt for the first, but it is far from being a good pattern; consequently we must decline engraving it for the Magazine. The Buggy is about the thing and shall appear as soon as practicable.

Wm. C., of Conn.—Your plan for making wheels with spokes set bracing on the hub from 2 to 3 inches is nothing new. We have seen many and made a few of the same kind. You can never accomplish half you anticipate; as for a patent it is time and money thrown away to attempt it.

M. P. S., of Ia.—Your drawings are received. The improvement you suggest in the calash top we think will prove a failure when practically investigated, and not only so, but the arrangement of the single prop or brace, being connected to the centre of the seat, and extending to the top inside, would, in our estimation, be a perfect nuisance, and an admirable hat and bonnet stover.

T. H. L., of N. Y.—You will find your inquiries fully answered by referring to the August No. of the Magazine.

S. E. T., of N. Y.—Your articles on setting axles have not yet reached us. Can you account for the delay? Should be pleased to hear from you in time for the next No.

THE LADIES OF HAVANA AND THEIR CARRIAGE—THE VOLANTE.



Every country has its own peculiarities; something is to be found in the manners and customs of every nation that is susceptible of exciting the wonder, curiosity and admiration of its neighbors.

For the amusement, and perhaps the instruction of our readers, we propose at this time to take an imaginary stroll with them in the great metropolis of the beautiful Island of Cuba, where we shall have the pleasure of introducing them to the manners and customs of the Cuban ladies and their carriage—one of the most novel and interesting productions of our fraternity known to the civilized world, the *Volante*.

Our engraving is a faithful illustration of this singular vehicle as it appears in the street, or on the way to the Tacon Paseo, to meet the fashion of the city at the close of the day, about the only out door recreation for the sex. Inasmuch as this carriage is a piece of furniture belonging almost exclusively to the feminine gentry of Havana, it may not be uninteresting to have a description of the fair creatures as well as that of their carriage.

A lady of respectability is never seen on foot in the streets of Havana, and this remark, as singular as it may sound to our Broadway and Chestnut street belles, is applicable even to the lowest classes; unless, indeed, it be the fruit women from the country with their baskets richly laden upon their heads, while they cry the names of their tempting burdens in the long, drawling, Spanish style.

The architecture of the city houses is exceedingly heavy, giving to them an appearance of great age. They are constructed so as almost universally to form squares in their centres, which constitutes the only yard which the house can have, and upon which the lofty arches of the corridor look down. The lower story is always occupied as store-room, kitchen and stable;

(think of a suit of drawing-rooms over a stable) while the universal *volante* blocks up in part the only entrance to the house.

We have said the Creole ladies never stir abroad except in the national volante, and whatever their domestic habits may be, they are certainly, in this respect, good *housekeepers*. A Cuban belle could never, we fancy, be made to understand the pleasures of that most profitless of all employments, spinning street-yarn. While our ladies are busily engaged in sweeping the sidewalks of Chestnut-street and Broadway with their silk flouncers, she wisely leaves that business to the gangs of criminals who perform the office with their limbs chained, and a ball attached to preserve their equilibrium. It is perhaps in part owing to these habits that the feet of the Cuban senorita are such a marvel of smallness and delicacy, seemingly made rather for ornament than for use. She knows the charm of the *petit pied bien chaussé*, that delights the Parisian, and accordingly, as you catch a glimpse of it, as she steps into the volante, you perceive that it is daintily shod in a French slipper, the sole of which is scarcely more substantial in appearance than writing paper.

The feet of the Havana ladies are made for ornament and for dancing. Though with a roundness of figure that leaves nothing to be desired in symmetry of form, yet they are as light as a sylph, clad in muslin and lace, so languid and light that it would seem as if a breeze might waft them away like a summer cloud. They are passionately fond of dancing, and tax the endurance of the gentlemen in their heroic worship of Terpsichore. Inspired by the thrilling strains of those Cuban airs, which are at once so sweet and brilliant, they glide or whirl through the mazes of the dance hour after hour, until daylight breaks upon the scene of fairy revel. Then, "exhausted but not satiated," they betake them-

selves to sleep, to dream of the cadences of some Cuban Strauss, and to beat time in imagination to the lively notes, and to dream over the soft words and winning glances they have exchanged.

Beautiful as eastern houris, there is a striking and endearing charm about the Cuban ladies, their very motion being replete with a native grace; every limb elastic and supple. Their voices are sweet and low, "an excellent thing in woman," and the subdued tone of their complexions is relieved by the arch vivacity of night-black eyes that alternately swim in melting lustre or sparkle in expressive glances. Their costume is never ostentatious, though costly; the most delicate muslin, the finest linen, the richest silk, the most exquisitely made satin shoes,—these, of course, render their chaste attire exceedingly expensive. There are no "strong-minded" women among them, nor is it hardly possible to conceive of any extremity that could induce them to get up a woman's right convention—a suspension of *fairs* and *volantes* might produce such a phenomenon, but we very much doubt it.

The Creole ladies lead a life of decided ease and pleasure. What little work they do is very light and lady-like, a little sewing or embroidery; the bath and the *siesta* divide the sultry hours of the day. They wait until nearly sunset for the drive in the *dear volante*, and then go to respond by sweet smiles to the salutations of the *caballeros* on the Pascoos, and after the long twilight to the Plaza de Armas, to listen to the governor's military band, and then perhaps to join the merry dance. Yet they are capable of deep and high feeling, and when there was a prospect of the liberation of the island, these fair patriots it will be remembered, gave their most precious jewels and ornaments as a contribution to the glorious cause of liberty.

The bonnet, (says a late traveler,) which forms

so important a part of the ladies' costume in Europe and American cities, is entirely unknown, or, rather, never worn by the Creole ladies; and strangers who appear with this article of dress are regarded with as much curiosity as we should be exercised by to meet in our own streets a Tuscarora chief in his war-paint. In place of the bonnet the Cuban ladies wear a long black veil, gathered at the back of the head upon the clustered braid of hair, (always dark and luxuriant), and drawn to one side or the other, as circumstances may require. More frequently, however, even this appendage is not seen, and they ride in the Pasos and streets with their heads entirely uncovered, save by the sheltering hood of the volante. When necessity calls them abroad during the early or middle hours of the day, there is a canvas screen buttoning to the dasher, and extending to the top of the vehicle, forming a partial shelter from the sun. This apparatus is universally arranged upon the volantes which stand at the corners of the streets for common hire; but the private vehicles of those ladies are rarely seen much abroad before the early twilight, or just before sunset.

Full dress, on all state occasions, with the Cuban ladies, is black; but white is worn on all ordinary ones, forming a rich and striking contrast to the fair olive complexions of the wearers. Jewelry is worn to a great extent, and, by those who can afford it, to the amount of most fabulous sums, of course the diamond predominating; but there is a general fondness for opals, garnets and pearls, worn in bracelets more particularly, or in bands about the hair, at the top of the forehead. There is one article without which the Cuban lady would not feel at home for a single moment; it is the fan, which is a positive necessity to her, and she learns its coquettish and graceful use from very childhood. Formed of various rich materials, it glitters in her hand like a gaudy butterfly, now half, now wholly shading her radiant face, which quickly peeps out again from behind its shelter, like the moon from out the gilded cloud. This little article (always rich and expensive), perfectly indispensable in a Cuban lady's costume, in their hands seems almost to speak; she has a witching flirt with it that expresses scorn; a graceful wave of complaisance; an abrupt closing of it, that indicates vexation or anger; a gradual and cautious opening of its folds, that signifies reluctant forgiveness; in short, the language of the fan in a Cuban's hand is an adroit and expressive pantomime, that requires no foreign interpreter.

The volante is the only denomination of pleasure vehicle seen in the streets of Havana, or indeed in any of the cities on the Island. It is difficult, without experience, to form an idea of its extraordinary ease of motion or its appropriateness to the peculiarities of the country. This is a common observation by all travelers who have written anything concerning Cuba. One

writer remarks that this vehicle makes nothing of deep mud, ruts, or any obstacle in the way, but with its enormous wheels of five and six feet in diameter, long heavy shafts, and low hung chase-like body it dashes along through and over every impediment with the utmost facility. Notwithstanding its singular form of construction, it is nevertheless extremely light, and easy upon the horse, which is also bestridden by the postillion or *calisero*.

Another writer observes, that he never seated himself into any kind of locomotive vehicle that seemed so pleasant or easy as the volante. Miss Bremer in one of her letters likens its motion unto a rocking cloud; that she never rode in a carriage more pleasant. Dr. White, in speaking of the peculiar motion of the volante, says: "If I could but correctly describe the durability, beauty, and ease of motion of this vehicle, no-thinks I would find no trouble of introducing it in the United States, and especially in New England, where the *chaise* is now so prevalent; this carriage would most certainly be substituted, for it is superior to the *chaise* in every point of view. But nothing short of a ride in one of them will convey a correct idea of their pleasant motion."

The Spaniards take great pride in their volantes, especially those improved for city use, and they are often to be met with elaborately mounted with silver and in many instances with gold, wrought with great skill and beauty. There were volantes, says Mr. Ballou, pointed out to me here, which did not cost less than \$2000 each.

A volante equipped in this style with its gaily dressed *calisero*, his scarlet jacket, high jack boots with silver buckles at the knee, spurs upon his heels with rollers one inch in diameter, his gaudy hat with cockade, the top of the volante thrown back, and laden with two or three black-eyed Creole ladies, makes the most dashy appearance imaginable.

These volantes are built in England and some few in this country, and shipped to Cuba. Not one is being manufactured there. We should not be surprised to see this vehicle used to some extent by certain classes in this country.

PRESENTATION VOLUMES.

One volume of the Magazine complete in fine gilt binding will be mailed on the 10th of the present month to the address of the following gentlemen, for clubs of ten subscribers and upwards, each has obtained for the Magazine.

MAINE.

W. H. ADAMS, J. M. KINBALL, J. & J. RUSSELL, G. W. WHITEMAN, CYRUS N. BAIN & Co.,

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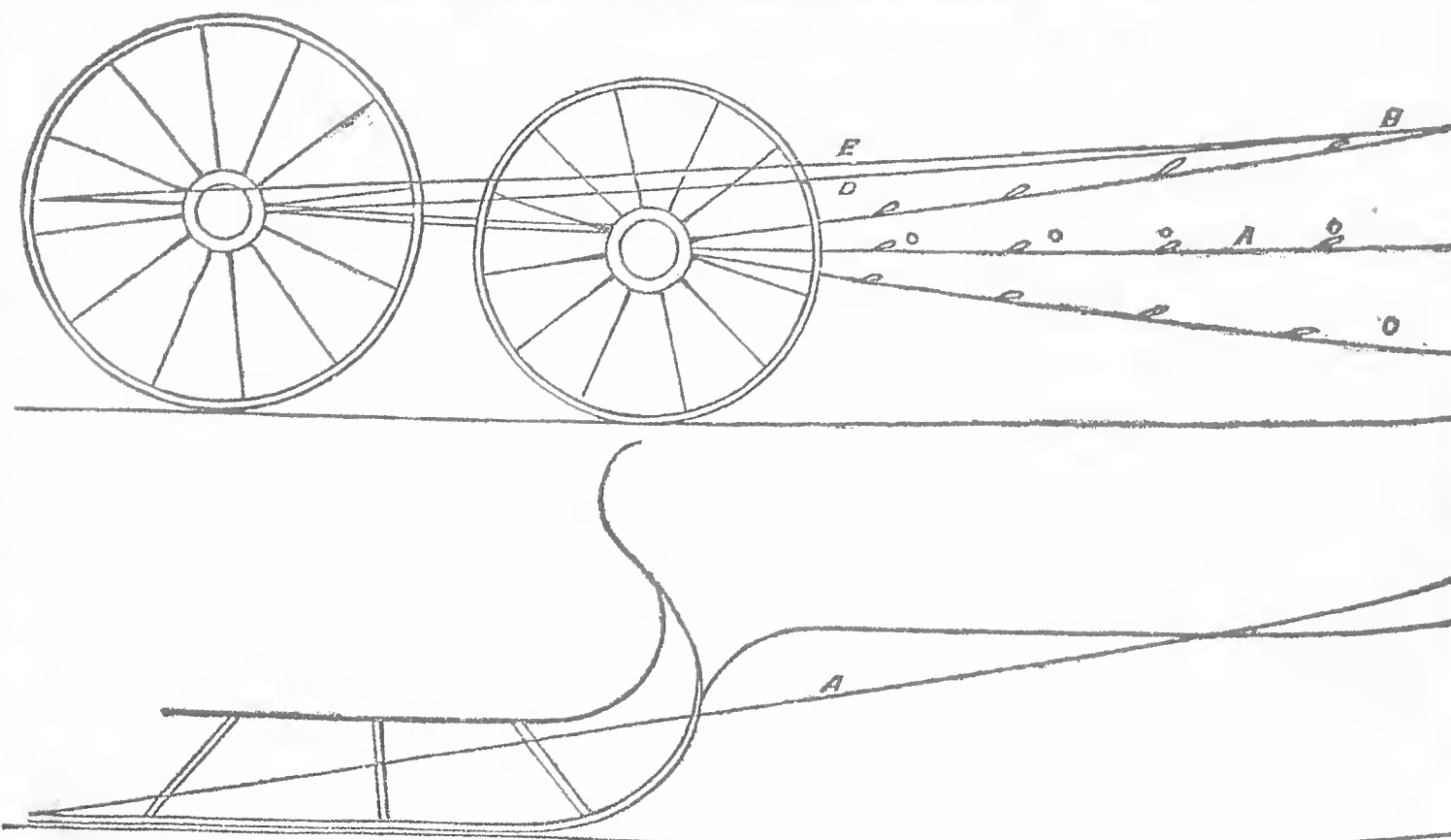
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GEO. N. MARGAN.

FLOWERS' CONTRIBUTIONS--No. 5.



The above illustration suggested itself to me on seeing an article in the second number of this work which set forth the advantages of a long and low geared carriage over a high one, and in said article the author has plainly shown that the length of the perch cannot make any difference in the draft of a carriage, providing it is of the same weight and drawn upon level ground. But the general opinion appears to be different, as I have heard many argue in favor of the short geared carriage, and in one instance I was convinced by a teamster who showed me by a practical experiment, that his horse would draw a load with more ease with a short geared carriage, than he could with a long one, for the reason, he said, that his horse was close to his burden. But I do not agree with him on that point, as it depends upon circumstances whether the draft of a carriage be greater at a distance or not as I will show as I proceed. Now, it seems strange that the author of the article referred to should prove by the experiment he has proposed, that his opinion is correct, and also the teamster has done the same, and yet each differs in his opinion. Now, one or the other we would naturally suppose must be mistaken; but which one is, if either, is a question to be decided. Now, to decide this question, and do justice to both, we must see under what circumstances each are laboring and judge accordingly. In the first experiment the carriage is drawn on a level, and the point from which it is drawn and the power which draws it remains the same in each trial. In the second experiment, the carriage is drawn upon a road and subject to its irregularities, and at each variation of the road the point of draft is varied, from the power that draws it increasing and decreasing the draft at each variation. Now, it is not necessary for us to prove that the first opinion is correct, for its author has proved by experiment enough to convince any impartial mind that he is correct, as far as he goes. But we will take up the teamster's argument, and see upon what he founds it, at

the same time I will explain my rule to obtain the correct point of draft, and to do so I will call your attention to the above plate.

In the first place we will suppose fig. 1 to be the carriage we are to experiment with, and it is standing on level ground. Next we will attach a rope to the centre of the axle, as shown by line A; to the rope we will attach loops as shown O O O O. This done, we will hook a spring balance in the first loop, and draw the carriage with it, keeping the spring balance on a line with the rope. By this trial we find it only requires four pounds of power to start the carriage. Again, if we detach the balance from the first loop, and attach it to the second, third or fourth, we will find it requires no more power to move the carriage than it did in the first trial, which shows that the space between the weight and power, makes no difference in the amount of power it takes to move the weight, and also proves that the teamster was not correct in his opinion, with regard to his horse drawing with more ease when close to his burthen.

As the first experiment was confined to the level, we will repeat in the same manner, but subject the carriage and power to the irregularities of a road, and suppose the power to be ascending a hill, while the weight remains on the level as shown by line B. Now, by applying the balance, we will find it requires more power to move the carriage than it did with line A, or if we attach them to line C we will find the same result. Now, we have seen by this experiment, that it requires the least power to move the carriage when drawn on a line with the centre of motion; and also by varying the line of draft the amount of power required is increased to move the same weight, and again, we learn that the longer the carriage is, the more the line of draft is varied, as shown by lines D and C, therefore we must conclude that the longer a carriage is, the more power it takes to draw it.

Fig. 2 represents a sleigh, by which is illustrated a rule to obtain a correct point of draft,

and thereby obviates the difficulty that so often occurs with sleighs of jumping up and down. The rule is simple but effectual in its purpose. All that is required is to fasten a line to the back end of the runner and carry it forward to the length of the shaft, raising it as high as a horse would bring it were one attached to it as shown by line A. Now, where the line crosses the runner, attach the shaft and let it bow so that it will come on a straight line, then there will be no difficulty in the running of the sleigh.

F. J. F.

For Saladee's Magazine.

ON THE PRICE OF ENGLISH CARRIAGES.

The following article has been kindly translated by a lady friend of ours from the French Magazine:

In England many more carriages are manufactured than in France. Throughout the extent of the country they are generally used; they have too, it is said, establishments, where by the division of labor, and in consequence of the stability of taste which exists in England, they can make certain carriages cheaper than in France. However, when they make something superior, their price is much higher than ours. This may be seen from the few prices which we have been enabled to gather. The price of the most important carriage in the English Exhibition was 12,500 francs, while in France a better one may be purchased for from 7 to 8,000 francs. The price current of a Caleche is in London 4,000 francs; more beautiful ones are made in Paris for 3,400 francs. We have had a small Pack Phaeton made for 875 francs. There are then but dog-carts and small Phaetons which would be cheaper, but for them there is not much labor required, no top.

TRIMMING DEPARTMENT.
WINTER TRIMMING FOR A ROCKAWAY.

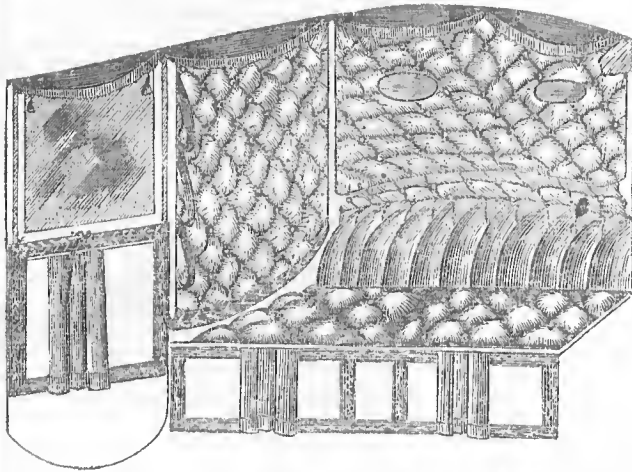


Fig. 1.

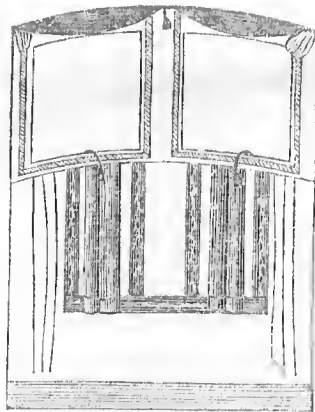


Fig. 2.

The annexed engravings represent a very beautiful style of winter trimming for rockaways and close carriages. Fig. 1 represents the interior view of a rockaway, with curtain quarter and back, also sliding glass door. The diamond work on the side and back curtains, is made independent of the curtains, and so constructed as to be fastened on the same knobs which hold the curtains to their places, and at the top under the festoon curtains, it is secured by means of knobs placed on the inside of the top or kant rail. By this arrangement, therefore, a summer or winter carriage is obtained in one; as in summer the inside trimmings to the curtains can be removed and laid away until such time as they are again needed, when they are applied with all possible convenience.

We think that no fine carriage should be completed without a trimming of this kind, for it at once imparts to the vehicle all the comforts that may be desired. It is arranged with such marked simplicity, and so appropriately adapted to all seasons of the year, that we are inclined to believe every coach-maker will adopt it in all his best class of work.

Fig. 2 represents an interior view of the moveable partition that is frequently applied to rockaways, showing the style of trimming, &c.

Hausknecht's communication referred to in our last issue will appear in the next No. He manages to throw considerable light upon this disputed claim between himself and the Messrs. Everetts.

THE MOWRY SPRING AND
AXLE FACTORY.

Messrs. J. S. & S. J. Mowry, of Conn., have been successfully engaged in the manufacture of Springs and Axles for the past eight years, and are favorably known among all the most popular coach-makers in this country, also, throughout Canada, for the universal satisfaction their productions have rendered wherever they have been introduced and tested. This Factory stands among the first in the Union.

The following is from W. D. Rogers, of Philadelphia, who, our readers are aware, stands high in

his profession as a practical coachmaker:

Having used the axles of J. S. & S. J. Mowry for several years past, I take pleasure in recommending them to the carriage builders throughout the United States. I know the quality of iron of which they are composed to be superior, and the manner in which their axles are fitted up reflects great credit on them as practical axle manufacturers.

I remain, yours, very truly,
W. D. ROGERS.

See advertisement in this No.

THE EDITOR'S PORTRAIT.

It was the design of the editor to present his numerous friends and patrons with a large and beautifully executed engraving of *himself*, printed on a separate sheet of fine steel plate paper, and bound up with this number of the Magazine. But owing to the magnitude of the task, the artists were unable to accomplish the work in time for this issue. However, it will be completed in due season to accompany the January number.

A VISIT AMONG THE CRAFT.

The Editor in going to New York this month will take a circular course and visit the craft in the following cities, (leaving Columbus 15th) viz: Cleveland, Detroit;—in Canada, Toronto, Hamilton, London, Brantford; Buffalo, New York, Poughkeepsie, Rochester and Albany, when he hopes to make a *personal* acquaintance with many of his old friends and readers.

Those forming clubs in the above cities might hold the names in readiness for delivery on his arrival, when they will all receive the January No. and a receipt for second volume of Magazine.

TO COACH HARDWARE & TRIMMING
MERCHANTS & MANUFACTURERS.

All persons engaged in the above business, can now have the opportunity of introducing their houses to over *twelve thousand* Coach-Makers throughout the United States and Canada by advertising in the COACH-MAKERS' MONTHLY MAGAZINE, a Journal which is devoted exclusively to the art of coach-making in all its various branches. This is the only medium through which such houses can advertise to good advantage.

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FOR THE
COACH-MAKERS'
ILLUSTRATED MONTHLY MAGAZINE.
SECOND VOLUME—1855.

THE FIRST NUMBER OF THE SECOND VOLUME of the COACH-MAKERS' MAGAZINE will appear about the middle of the coming month, (December.)

The Magazine for 1856 shall be devoted exclusively to the art of coach making in all its various branches, embracing the following heads:

1st—CARRIAGE DEPARTMENT—Explanations in wood-work—Ironing, with Illustrations—Communications, &c.

2d—TRIMMING—with monthly Illustrations.

3d—PAINTING—With practical observations from experienced Coach Painters.

4th—EDITORIAL. 5th—MISCELLANEOUS ARTICLES. 6th—HISTORICAL.

To each of the above departments will be imparted an interest that will meet the most sanguine expectations of the different classes for whom they are intended.

Under the first head, will be given all the necessary explanations of the Drawings illustrated on the fashion plates in the wood department, together with the ironing, accompanied by illustrations, also communications, and the various rules and modes of building carriages, &c. &c.

THE TRIMMING DEPARTMENT.

This will be edited by one of the most experienced and fashionable Coach trimmers in New York City, whose services have been secured for one year from Jan. 1st, '56, who will furnish practical and fashionable illustrations for each number, with explanations of the same, &c.

PAINTING.

This department will be open to contributions from various coach painters whose services are also secured for the coming year. This part of the Magazine will be peculiarly interesting to the carriage painter in general, as it will contain from time to time practical observations from the most scientific coach-painters in this country. Much can be said and written on this subject with profit to the reader.

EDITORIAL.

The matter appearing under this head shall be of a character that will render it instructive and interesting to the craft in general.

MISCELLANEOUS ARTICLES.

Selected for the amusement of the reader, consisting of Poetry and choice miscellaneous reading.

HISTORICAL.

This part of our work shall be continued through the coming year, representing historical facts and illustrations of the ancient modes of locomotion in carriages, &c.

TERMS OF SUBSCRIPTION TO THE NEW VOLUME.

Single subscription, one year	\$3 00
Clubs of three	8 00
“ “ six	15 00
“ “ ten	20 00

Payable invariably in advance. All Clubs, however, must be sent to one address.

Each person making a club of six, shall have his seventh copy sent gratis, and each individual making a club of ten, shall at the end of the year be presented with one volume of the Magazine complete, in fine gilt binding, with the name of the one to whom it is presented stamped on the cover in gilt letters.

All Communications must be addressed to the Editor at his residence, Columbus, Ohio.

OFFICE of the COACH-MAKERS' MAGAZINE in Columbus, Ohio, Buckeye Block, Broadway.

OFFICE of the COACH-MAKERS' MAGAZINE, New York, 106 Elizabeth St., E. M. SMITH, Assistant Editor and Agent for New York city. All subscribers in the latter place, will please pay their subscriptions at our office in that city.

CLUBS.—Any individual belonging to a Club and should change his place of residence after he has thus subscribed, can have his copy forwarded to any locality by notifying us of his removal, stating the Club he belongs to, &c.

C. W. SALADEE, Editor and Proprietor.
Nov. 1, 1855.

SMITH & VAN HOAN,

No. 70 Beekman Street, between Pearl & Gold Streets,

NEW YORK.

IMPORTERS OF AND DEALERS IN

CARRIAGE HARDWARE, TRIMMINGS, &C. &C.

HAVE ALWAYS ON HAND

Springs—all qualities,
Axles—all kinds,
Malleable Castings,
Carriage Bolts—best and common,
Patent Leather,
Enameled do.,
Painted Cloth,
Enameled Muslin, do.
Drills, do.
Duck do.,
Broad Cloth—all colors,
Damask—Worsted and Cotton,
Orleans Cloth—Silk Stripe, do.,
“ Plain,
Brocades and Cotelines,
Curtain Silks,
Silk and Worsted Coach Lace,
“ Fringe and Tassels,
Brussels and Velvet Carpet,
Oil Cloth Carpet,
Calèche Fixtures,
Spring Barrels,
Curtain Frames,
Coach and Buggy Lamps,
Lining and Saddle Nails,
Rein Hook Levers,
Brass and Silver Top Drops,

As well as all other articles used in the manufacture of Carriages.

S. & V. H. from their long experience in the business, think that their stock, which has been selected with great care and with a view to supply consumers, will, for quality and price, favorably compare with any other in the market, and solicit a trial from Carriage Manufacturers.

N. B.—English Varnish and Japan, put up in 1 Gal. Tin Cans.—Price of Carriage Varnish, \$5.—Body, do., \$5.75. Japan, \$5. Enameled Leather Varnish \$6 per Gal. [June 1855]

BOUTON & ARID.

67 Bowery, One Door from Canal Street.

MANUFACTURERS, IMPORTERS, & WHOLESALE DEALERS

In Everything appertaining to the

CARRIAGE & SADDLERY HARDWARE BUSINESS.

HAVING FACILITIES NOT EXCELLED BY ANY OTHER HOUSE IN THE TRADE, WE FEEL CONFIDENT THAT WE CAN offer inducements to buyers in both branches of the business, that cannot fail to secure their patronage. Believing it to be unnecessary to mention here the many different articles used by Carriage and Wagon Manufacturers, also Saddle and Harness Makers in the business, we have selected our stock with great care, and with a view of furnishing the best of Coach and Wagon materials and complete assortment of the above Goods to be found in this City. TERMS—Six months approved paper. Thirty days, 5 per cent. off. [Nov-1855]

WHEELER DEERS. CALLED B. TICKENER. EDWARD STERLING.

Spring Perch Company,

JOHN STREET, BRIDGEPORT, CONN.,

MANUFACTURERS OF

COACH & CARRIAGE TEMPERED SPRINGS,

Patent & Half Patent Axles,

Tomlinson's Patent Spring Perches.

BANDS, CALASH TRIMMINGS,
CURTAIN ROLLERS, &C.

WE respectfully solicit the patronage of those who are making

FIRST CLASS CARRIAGES.

We believe we have deservedly acquired the reputation of manufacturing the best articles in our line in the country. Our Springs are made from the best

ENGLISH SPRING STEEL,

(which is made expressly for us from Sweden's Iron) and are all thoroughly tested before they leave the Factory. Our Axles are of the

BEST SALISBURY IRON,

and our Carriage Trimmings are made in the latest and most approved styles.

SPRING PERCH COMPANY.
B. STERLING, Sec'y.
June 1855.]

TOMLINSON

Spring and Axle Company.

MANUFACTURERS OF
COACH AND CARRIAGE

Tempered Springs.

Mail Patent, Half Patent and Taper

CASE HARDENED AXLES.

CAMEON St., BRIDGEPORT, Conn.

THE SUBSCRIBERS WOULD RESPECTFULLY CALL THE attention of Coach and Carriage Manufacturers to their

Springs and Axles,

As we are confident we can furnish them an article unsurpassed (as to quality of material and finish) in the United States.

Our Springs are manufactured from

ENGLISH STEEL,

made from the best Sweden's Iron, and our Axles from Salisbury Iron.

Terms as favorable as any other manufacturer.

All orders filled with promptness.

RUSSELL TOMLINSON, Esq., Pres't.

Wm. G. LESIEBERG, Sec'y. S. B. FERGUSON, Treas'r.
Oct. 1855.

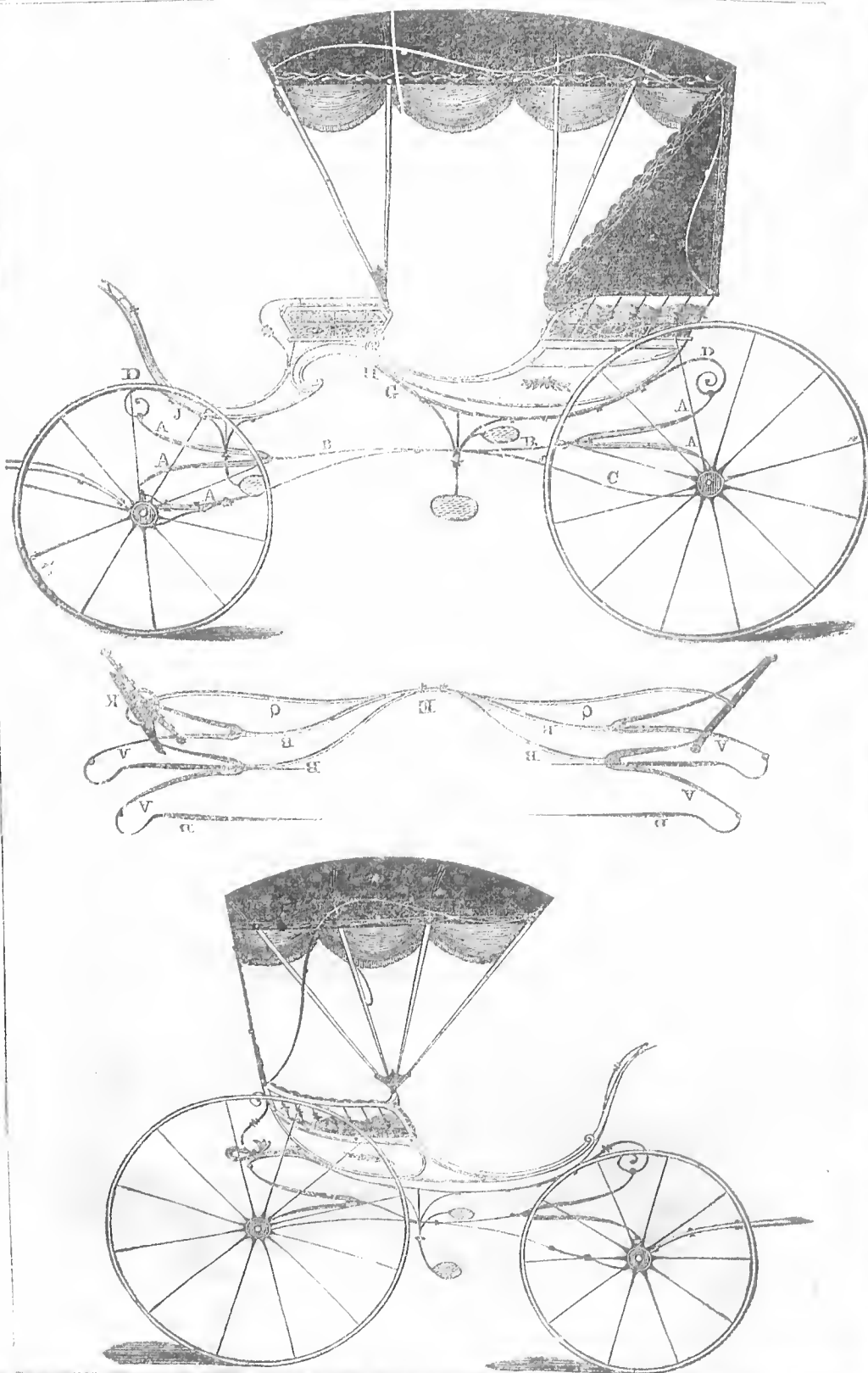
SPROUT'S COMBINED CARRIAGE SPRING, PERCH AND BRACES! THREE COMBINED.

New arrangement.

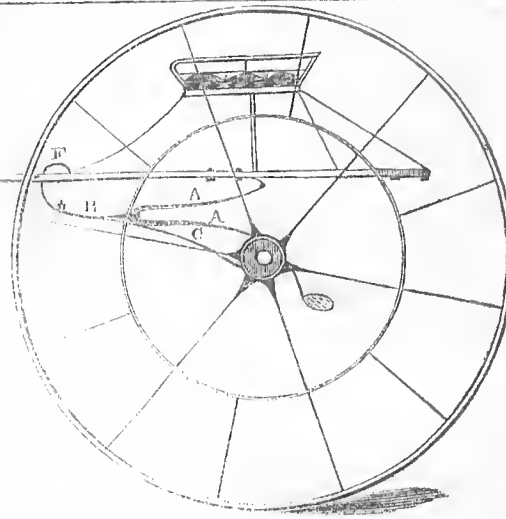
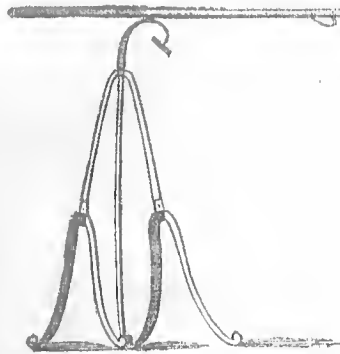
The demand for our Combined Spring and Braces has so increased within the last month in the western and southern States, that we find it necessary to establish an agency in the west through which the coach-makers in that region of country can be promptly supplied.

COLUMBUS, Ohio, is where we have located the agency above referred to, and where all orders from the following territories will meet with prompt attention, by being addressed to the *Office of the Coach-Makers' Magazine*, (Mr. Saladce having consented to attend to business for us until further arrangements can be made,) and to which address all orders from the States below mentioned must be directed, viz; all that portion of Pennsylvania west of the Alleghany Mountains, Virginia, Ohio, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Missouri, Iowa, Milwaukee City, Wisconsin; Chicago, Illinois. The rest of the territory in the two latter States as well as Indiana and Kentucky, were sold before we commenced manufacturing; however, we are trying to make arrangements that will enable us to furnish our springs to the latter also. Mr. Abram Terrill, (Mr. Saladce's general agent,) is about to make a tour through the west to collect subscribers to the Magazine; the said gentleman is authorized to receive orders for our springs, as he sojourns through the different States.

Orders from all other territories not above mentioned, will be directed to the proprietors,
SPROUT, BURROWS & CO.,
Hughesville, Lycoming Co., Pennsylvania.
October, 1855.



THE COACH-MAKER'S MAGAZINE.



In offering this Spring to the Coach-making public we would most respectfully call the attention of the Craft to the following advantages they embrace over the ordinary Eliptic Springs :

- 1st. Possessing double the strength and elasticity.
- 2d. A Carriage can be built much lighter.
- 3d. Much less concussion to the passengers.
- 4th. Its liabilities to get out of repair are not near so numerous.
- 5th. The wheels adjust themselves to the road without the carriage rocking.
- 6th. Springs designed for a heavy load will carry a lighter one with ease.
- 7th. It serves effectually as a perfect brace to the whole vehicle.
- 8th. Requires much less labor, wood and iron to construct a carriage.
- 9th. The whole connection being of spring steel, a gentler motion is felt (instead of sudden jars, as with the ordinary perch and stiff braces,) and thus gives relief to the entire carriage.

These Springs if applied to the Carriage according to directions, (accompanying them) are not only warranted to stand, but to accomplish every point set forth in this advertisement, and any time within one year should they fail to perform, they can be returned, and the money refunded.

We are well aware that numerous patents have been granted within the last three years for improvements in Carriage Springs, and after the right was extensively sold to the Coach-makers throughout the country, many of them proved perfect failures, and thus shocked the confidence of the craft generally, in improvements for this branch of the carriage. But the proprietors of this Spring having full confidence in their improvement, have at a great expense erected large factories and employ the best facilities for their manufacture ; and now offer to the public (not the right to make, &c.) but the Spring itself and in a manner that none will be the loser to give them a trial, at the following low rates :

PRICES.

Sulky Springs	- - - - -	per sett, \$10 00	Slide Seat Buggy Springs	- - - - -	per sett, \$17 00
Light Buggy Spring	- - - - -	" 15 00	Four Passenger	- - - - -	" 19 00
Top Buggy	- - - - -	" 16 00	Six	- - - - -	" 22 00

Persons sending their orders for a peculiar shaped Carriage should take the side or rocker pattern of the different bodies to which the Springs are to be applied, and mark them off on the white side of wall paper, and also make the points at each end of the pattern where they desire to have the body loop to terminate, and forward the same, and the Springs will be made to harmonize with the shape and length of the bodies.

RECOMMENDATIONS.

REPORT OF THE N. Y. STATE AGRICULTURAL SOCIETY—SPROUT'S COMBINED CARRIAGE SPRINGS.

An entire new arrangement—getting double the resistance and elasticity, with less expense and weight of metal. The Committee recommend it as a valuable improvement a silver medal. In the Committee's awards they have given the Society's Silver Medal to the most meritorious articles.

J. B. LANGWORTHY.
JOSEPH SLOCUM.

I have used about one thousand dollars worth of Sprout's Combined Springs, and have not heard of the least dissatisfaction, but on the contrary universal praise. I have them under my own carriages for use, and know them to be the easiest and most durable springs that can be applied. Carriages can be got up with much greater despatch, and at less expense. All that part most liable to get out of repair is covered by these springs and warranted. They vibrate freely, and their motion over rough roads is peculiarly delightful. I can truly say I know of no spring equal to them now in use.

Milton, June 13th, 1855.

SIMON GEHRES.

I am the owner of a livery stable, and have used nearly all kinds of springs, and have found none equal to Mr. Sprout's for ease and durability. The tops of buggies keep their places much better, not

suggesting sideways, and for rough roads nothing can equal them. I can save 50 percent in repairs by using these springs.

Milton, June 1855. J. WILHELM.
I had a 2 horse passenger wagon supplied with eliptics, which was, owing to the roughness of the roads continually getting out of repair. I had them exchanged for a set of Mr. Sprout's, since which time I have had no trouble, often carrying double what he warranted them to do. They have been in continual hard service for over two years, and are now as good as ever. They carry one or more persons with perfect ease. I also have them under buggies in my livery stable, and find them attended with much less expense than any other Spring.

Muncy, Pa., June 1855. T. W. JOHNSON.
We, the undersigned, have had the old eliptic taken out, and Mr. Sprout's put in place and although attended with considerable cost, yet the difference in ease and durability far exceeds the trouble and expense.

JOHN F. McLAIR, Hughesville, Pa.
J. M. B. PETRIKIN, Att'y at Law, Muncy, Pa.
WM. M. RANKIN, M. D. " "
H. WOOD, M. D. " "

A short time since, as I was travelling to a neighboring county, just before me I saw a buggy with Sprout's Combined Springs, which seemed to move over the road with all ease, the wheels working into ruts, over roots and stones, at the same time the

body keeping its horizontal position, while that of my own tossed me from side to side, rendering it extremely difficult to retain my seat. I sold my buggy the first opportunity, and purchased one with Sprout's Combined Springs, and now I have the pleasure of riding as easy as my neighbors.

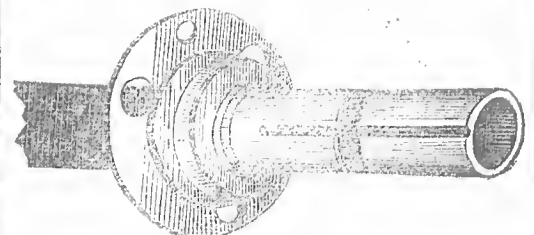
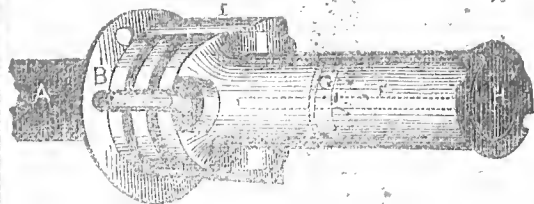
Hughesville, Pa., June 18, 1855. RUSSEL BODINE.
I have a buggy and sulky with Sprout's Combined Carriage Springs, which I have used two years. In my opinion they exceed any thing of the kind ever offered to the public. Persons who consult ease, after having used these Springs, can never be persuaded back to the old eliptics.

Hughesville, Pa., June 13, 1855. JOHN H. ROPHROCK, M. D.
TERMS:
All orders must be accompanied with the money to secure immediate attention, and directed (either by mail or express) to SPROUT, BURROWS, & CO., Hughesville, Lycoming Co., Pa., or their agent, ISAAC L. HUNT, No. 215, Pearl St., N. Y. City.

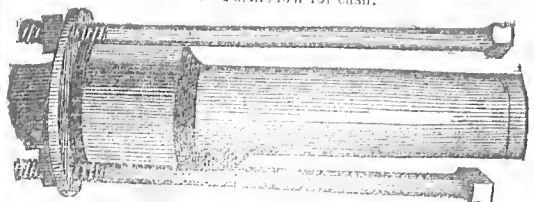
CAUTION.
Springs of an inferior quality have been manufactured and sold by persons without authority. This is to caution the purchaser as well as the vender, against such infringement, as they will be dealt with according to law.
SPROUT, BURROWS & CO., Proprietors.

THE COACH-MAKERS' MAGAZINE.

W. H. Saunders,
Hastings,
(ON THE HUDSON RIVER.)
NEW YORK.



Manufactured of Superior Steel, Carriage Axles, viz: Mail Axles, with long T Bolts and Goggles for them, and Saunders' Patent Mail Axles, with short bolts and safety flanges; Half-Patent Axles, of improved forms and proportions, with Collars, Goggles, or with Mail Collars; Saunders' very superior new Patent Taper Axles, with handsome bright Iron Square or Six-Sided Nuts. Terms low for cash.



W. H. S. having reason to believe that Carriage Axles greatly inferior to those made by him, are frequently represented as Axles of his make, he is hereby notified that all Axles made by him are marked on the shaft "Saunders, best Iron" or "Saunders' Patent," (with the date), and that Axles represented as made by him, and not so marked, are a badly made imitations, fabricated from inferior, low-priced iron, are often of wretched workmanship, are dangerous to use, and give constant trouble.

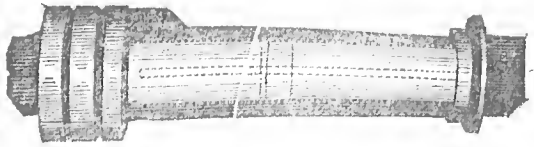
The following testimonials, with which W. H. Saunders has been favored by the gentlemen whose names are appended thereto, establish the reputation in which Saunders' Axles are held by the most respectable Carriage-Makers in New York and vicinity:



"The undersigned, Carriage-Maker at New York, April, 1852, having for many years used Axles of W. H. Saunders, and finding, for the best classes of Carriages, recommend the same to the public with full confidence as the best Carriage Axles made in the United States, and superior to any imported."

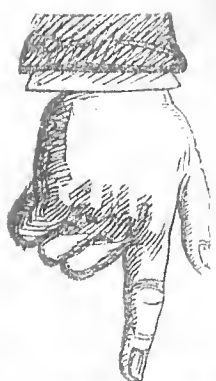
Wood, Tomlinson & Co., Broadway
John E. Lawrence, 351
Isaac M. J. Jr., 419
Miner & Stevens, 365
L. & T. Walters, Brooklyn, L. I.
Levi Adams, Harlem

Isaac Ford, 115 Elizabeth St.
Chas. Burdick, 221 Grand St.
Mal. Thompson, 27 Woodcut St.
Wm. Radforty, 33 Canal St.
E. M. Stratton, 108 Elizabeth St.
Thos. Burdick, Yorkville.



W. H. Saunders was the original inventor, and the first patented, of the "Double Mail Axle," and the first manufactured. He has been successful in the Old Chamber drilled out of the body of the Mail Axle at the end of the bearing, and is the author of every improvement on the Mail and other Axles which has been only used the severe proof of New York Third Avenue street, and has been adopted into general use. His patented improvement on the Mail Axle is an axle on the Taper Axle, and has been extensively tested, and is surpassing the other forms. W. H. S. Axles have always been awarded the first premium when exhibited for competition, and his new Patent Taper Axle (patented June 1854), is universally admitted to be the best axle for light carriages ever produced; for, although it is as strong as the Mail, and equally excludes road dust, and has a much longer bearing, with the same length of hub, yet the 4 inch Patent Taper Axle measures only 1 1/2 inches, if outside diameter of the large end; thus it is extremely better fitted than any other for the smallest and lightest Buggy. Manufacture at Hastings, on the Hudson river, N. Y.

Orders solicited.
October, 1855.



MOWRY SPRING & AXLE FACTORY.

J. S. & S. J. MOWRY,
MANUFACTURERS OF
SPRINGS & AXLES,
ALSO,
COTTON, WOOLLEN & PAPER MACHINERY,
STEAM ENGINES,
TOOLS, LATHES, &c.
GREENVILLE, CONN.

P. S.—WE MAKE THE FOLLOWING VARIETY OF CASE HARDENED AXLES: The Taper, Half-Patent, Bolt (Patent) long bolt, Screw Patent and Omnibus, New York pattern, either hardened or steel laid.

We have been engaged some EIGHT YEARS in the manufacture of Axles, and selling almost exclusively to first class carriage-makers who manufacture their work exclusively to order, and not for transient custom, thereby knowing the utility of our work better than those who do business otherwise.

The iron we use in the manufacture of our axles is made from

COLD BLAST CHARCOAL PIG,

which is wrought in Charcoal fires, into hammered billets or moulds. The Collar, of some being swedged out of the solid bar instead of being welded on, and what is particularly essential in the Patent Axle, prevents all possibility of a cold short, which is liable to occur when welded on.

Axles manufactured of this quality of material certainly costs more and are better than those made from the rolled material or hammered scrap, or even from BROKEN CAR AXLES. Indeed, we cannot purchase a

UNIFORM MATERIAL

unless worked as above, that is at all adapted to our use.

When dealing with many manufacturers in most of our leading cities, yet we do not claim to sell to every first class carriage maker in the UNION, or to have made every improvement that has been made in Axles, but decline to sell as good an article and at as low a figure as any of our competitors for the same material and skill, and do endeavor to sell our share. All of our stock we warrant, and stamp our name on the same. We have and do keep on hand a larger stock of Axles finished than any other manufacturers in the United States, of

Case Hardened Axles.

Therefore can be more prompt in filling orders for same. We could furnish a long list of testimonials, but as our goods stand on their own merits, we refrain from so doing. We are now prepared to fill orders for all varieties of Springs, and will furnish a quality that will compare favorably with our Axles.

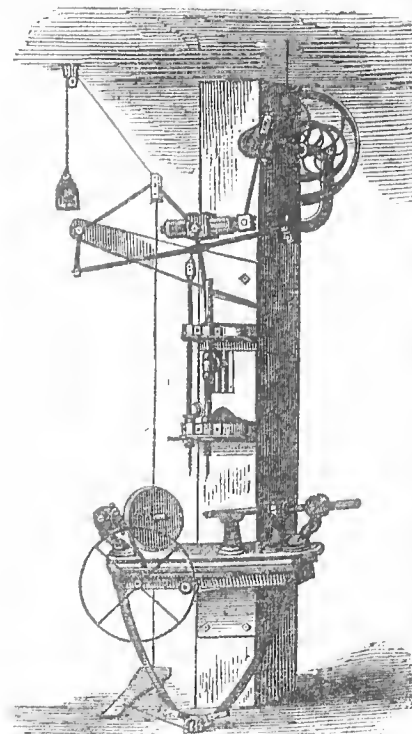
All communications addressed to us at above will be promptly attended to.

Dec-1855.]

J. S. & S. J. M.

TO COACH & WAGON Manufacturers. LANE & BODLEY'S PATENT POWER HUB MORTISING & BORING MACHINE.

(Working Chisels of any size and dish required.)



THE OBJECTS OF THE MORTISING MACHINE, BY THE PECULIAR APPLICATION OF THE POWER, THE STRIKE CAN BE AS NEARLY GRADUATED AS IT CAN BE DONE BY HAND. The motion of the end of the controlled entirely by the foot of the operator, leaving his hands free for other purposes. The chisel can be instantly or gradually brought into a state of full action, and its cessation is controlled in the same manner. Owing to the complete command of the operator over the machine, we are enabled to employ the wing chisel, which draws every chip from the mortise. We are now building six sizes of the mortiser, two of which are made exclusively for the carriage and wagon business. We take pleasure in referring the craft to the following certificates:

GREAT WESTERN SPOKE, HUB & WHEEL FACTORY.

CINCINNATI, Nov. 17, 1855.

MESSES. LANE & BODLEY—Gentlemen: The Power Hub Mortiser we purchased of you three years since has more than answered our expectations. We are satisfied that it is the best Power Mortising Machine in the United States, it being simple in arrangement, rapid in its execution, and not liable to get out of order.

ROYER, SIMONTON & CO.

WHEELING, Dec. 15, 1854.

MESSES. LANE & BODLEY—Gentlemen: We take pleasure in recommending your Hub Mortising Machine to the public. We have had one of your machines in our establishment for some eighteen months, and we look upon it as the best piece of machinery in use for hub-mortising, and as good as any for square and angle mortising. It is a saving to us of at least 30 to 40 per cent. over hand labor, and does its work much better than it can be done by hand. We would not be without it upon any consideration.

BUSBY, LITTLE & CO.

DAYTON, Nov. 16, 1854.

MESSES. LANE & BODLEY—Gentlemen: The Power Mortising Machine you made for us, we consider the best principle now manufactured, and would recommend it to those who wish to do good work.

BLANCHARD & BROWN,
Wagon Spur Manufacturers.

MASSVILLE, Dec. 1st, 1854.

MESSES. LANE & BODLEY—Gentlemen: The combined Mortiser for hub and square work, I purchased of you some eleven months since, is of great value in my business. I do not believe it has its equal for convenience, economy, and good work. I have mortised sixteen hubs, from 8 1/2 inches to 9 inches in diameter, in one hour and twenty-three minutes, and it is an equal saving in time for the square work about a wagon. It requires but little power to run it, and it is not liable to get out of order.

LOUIS GEBHART.

Third size, Hub Mortiser, with boring mandrel, works hubs 16 in. by 14 in. diameter—tools extra, \$175.00.

Fourth size, for hub or square work, will mortise at any angle or level—tools extra, \$220.00.

Chisels 2 1/2 to 2 3/4 cts each. 3 to 4 in. \$1.00 each.

Cast steel machine angles 30 cts per quarter—24 cts. each for all sizes.

Dec. 1855. LANE & BODLEY,
No. 48, Pearl St., Cincinnati.

Enamelled and Oil-Dressed Leather;
Dash, Collar and Fancy Enamelled;
Enamelled Cloths of all kinds;
Wood Work of all descrip-
tion; Cloths, Damasks, Cott-
lines, Silk and Worsted Laces, Tas-
sels, Silk Fringes, Carpet, Oil Cloths
Buckram, Moss and Hair; full assortment Proper Turned and Plated
Collars, Stump Joints, Ivory Nails, &c., &c., &c.
JOHN TENNIS. D. A. DANGLEY.
Oct. 1853.

ADOLPHUS KEPPELMANN, 110 Chambers St., New York, formerly Messrs. H. L. Routh & Sons.
WILSON & HAYDEN, Cincinnati, Ohio.
Nov-1855.